

## **Preface**

The Bella Lago Precise Plan, Rezone, and Tentative Tract Map project is expected to be the first project subject to approval under the City of Chula Vista Multiple Species Conservation Plan (MSCP) Subarea Plan, which is currently in draft form. The MSCP Subarea Plan is scheduled for a joint City Council/Planning Commission hearing in mid-March, 2003. It is unknown at this time whether the Subarea Plan will be in effect prior to the certification of this Environmental Impact Report (EIR) and final action on the Bella Lago project.

The environmental analysis and mitigation measures identified in this EIR make reference to the City's Draft MSCP Subarea Plan in anticipation of the plan's ultimate approval. The analysis and mitigation measures contained in this EIR are intended to be separate from any action the City would take relative to the City's Subarea Plan. Mitigation measures required for Bella Lago as presented in this EIR shall be implemented as identified in the Mitigation Monitoring and Reporting Program regardless of the City's actions on the Draft MSCP.

**Changes Incorporated in the Final Environmental Impact Report for the  
Bella Lago Precise Plan, Rezone, and Tentative Tract Map Project**

Following the public review period of the Draft EIR, clarifications and corrections were made to the text of the Final EIR. The following table identifies the locations of the key changes to the text, tables, and graphics and a brief description of the changes, which were made in response to the comments received during review of the Draft EIR. Additional minor changes, not identified in the comment letters, were also made where typographical errors and/or inconsistencies occurred in the Draft EIR. Text changes in the Final EIR are indicated with underline for added text and ~~striketrough~~ for deleted text. Copies of all letters received by the City of Chula Vista regarding the Draft EIR and the responses to comments follow immediately after this section.

Location in the Final EIR	Description
Pages ES-9, 4.7-12, 7-8	Correction to Mitigation Measure 4.7c.
Page ES-10	Correction to Mitigation Measure 4.7d.
Pages ES-17, 4.11-24, 7-17	Revision to Mitigation Measure 4.11f-1.
Page 4.2-10	Clarification of Rolling Hills Ranch biological mitigation.
Pages 4.11-21 through 4.11-24	Revisions to Schools section.
Page 5-3	Correction to description of Rolling Hills Ranch project.
Figure 4.11-2	Clarification of Rolling Hills Ranch recommended sewer facilities.
Appendix N	Revisions to Bella Lago ASMDs.

## Responses to Comment

All letters received during the public review of the Draft Environmental Impact Report for the Bella Lago Precise Plan, Rezone, and Tentative Tract Map project are reproduced in their entirety and are addressed in the following Responses to Comments section. Numbered responses correspond to the numbered comments at the point the comment occurs for purposes of continuity. Changes made to the text of the final document as a result of the letters of comment are indicated by underline (for additional text) and ~~strikeout~~ (for deletions), as referenced in the applicable response(s) to comments.

### Letter of Comment

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## Comment



Gray Davis  
Governor

STATE OF CALIFORNIA  
Governor's Office of Planning and Research  
State Clearinghouse



Tom Pomeroy  
Interim Director

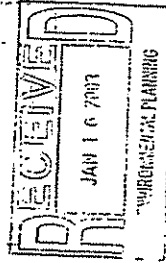
### ACKNOWLEDGEMENT OF RECEIPT

DATE: January 7, 2003

TO: Steve Power  
City of Chula Vista  
430 F Street  
Chula Vista, CA 91910

RE: Bella Lago Rezone, Precise Plan, and Tentative Tract Map  
SCH#: 2002051138

JAN 10 2003



This is to acknowledge that the State Clearinghouse has received your environmental document for state review. The review period assigned by the State Clearinghouse is:

Review Start Date: December 30, 2002  
Review End Date: February 12, 2003

We have distributed your document to the following agencies and departments:

California Highway Patrol  
Caltrans, District 11  
Department of Conservation  
Department of Fish and Game, Region 5  
Department of Housing and Community Development  
Department of Parks and Recreation  
Department of Water Resources  
Native American Heritage Commission  
Office of Historic Preservation  
Regional Water Quality Control Board, Region 9  
Resources Agency  
State Lands Commission  
State Water Resources Control Board, Division of Water Quality

The State Clearinghouse will provide a closing letter with any state agency comments to your attention on the date following the close of the review period.

Thank you for your participation in the State Clearinghouse review process.

1409 11TH STREET P.O. BOX 3941 SACRAMENTO, CALIFORNIA 95812-3941  
(916)445-8811 FAX (916)445-3018 www.opr.ca.gov

0-000000

## Response

1-1 Comment noted.



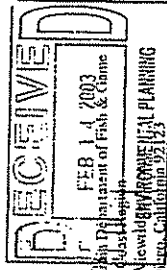
## Comment



U.S. Fish and Wildlife Service  
Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road  
Carlsbad, California 92009  
(760) 431-9440  
FAX (760) 431-9624



California Department of Fish & Game  
South Coast Region  
4949 Viewridge Drive  
San Diego, California 92123  
(858) 467-4201  
FAX (858) 467-4299



In Reply Refer to:  
FWS SDG-3341.1

Mr. Steve Power  
Environmental Projects Manager  
City of Chula Vista  
276 Fourth Avenue  
Chula Vista, California 91910

JAN 12 2003

Re: Comments on the draft Environmental Impact Report for the Bella Lago Precise Plan, Rezone, and Tentative Tract Map, in the City of Chula Vista, San Diego County, California

Dear Mr. Power:

The California Department of Fish and Game (Department) and U. S. Fish and Wildlife Service (Service), collectively the "Wildlife Agencies," have reviewed the above-referenced draft Environmental Impact Report (EIR). The Wildlife Agencies have worked with the applicant and the City of Chula Vista (City) to identify the open space component of the project, and these comments are provided to assist the City in minimizing the effects of the Bella Lago residential project on wildlife and regional conservation planning. The comments provided herein are based on the information provided in the draft EIR; a site visit by Service Refuge staff in November, 2002; the Wildlife Agencies' knowledge of sensitive and declining vegetation communities in San Diego County (County); and our participation in regional conservation planning efforts.

The primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*). The Department is a Trustee Agency and a Responsible Agency pursuant to the California Environmental Quality Act (CEQA), Sections 15386 and 15381 respectively. The Department is responsible for the conservation, protection, and management of the State's biological resources, including rare, threatened, and endangered plant and animal species, pursuant to the California Endangered Species Act (CESA), and administers the Natural Community Conservation Planning (NCCP).

The 179.6 acre Bella Lago residential project is located in the northeastern portion of the City, on the southern flank of San Miguel Mountain. The project is surrounded to the north, east, and south by North City Preserve Management Area lands, consistent with the City's Multiple Species Conservation Program (MSCP) Draft Subarea Plan, and to the west by the approved

## Response

2-1 Comments noted. No response is necessary.

## Comment

Mr. Steve Power (FWS-SDG-3341.1)

2

2-2

Rolling Hills Ranch development. The proposed project would develop approximately 93.1 acres with low-density residential land uses, conserve 86.5 acres on-site as a preserve area in accordance with the City's MSCP Draft Subarea Plan, and conserve 2.5 acres of habitat that supports Otay tarplant (*Diandra conijungens*) in Johnson Canyon, or comparable area approved by the City and the Wildlife Agencies. The Bella Lago project is considered a "covered project" under the City's MSCP Draft Subarea Plan. Additionally, the on-site Preserve area is adjacent to the San Diego National Wildlife Refuge and is being considered for eventual inclusion in the Refuge.

Access to the Bella Lago site is dependent on development of the approved Rolling Hills Ranch Subarea III; however, Subarea III is not currently developed. If Bella Lago is developed prior to Rolling Hills Ranch Subarea III, the roads will be constructed by the developer of the Bella Lago project, and incorporated into the Bella Lago project area. The draft EIR evaluates both scenarios.

The Wildlife Agencies appreciate the opportunity to comment on the draft EIR for the Bella Lago Precise Plan, Rezone, and Tentative Tract Map project. We offer the following comments and recommendations to assist the City of Chula Vista in minimizing and mitigating project impacts to biological resources, and to assure that the project is consistent with ongoing regional habitat conservation planning efforts.

2-3

1. The project should avoid or minimize potential impacts to the San Diego National Wildlife Refuge (Refuge) from construction and long-term activities associated with the Bella Lago project. The final EIR should include a thorough analysis of potential impacts to the protected species and habitats within the Refuge, and should include measures to mitigate any adverse direct, indirect, or cumulative impacts. The impact analysis should specifically address the potential for increased disturbance (e.g., human and pet intrusion, night lighting and glare, noise, physical barriers to migrating animals, and the increased presence of predators attracted to urban activities) to the sensitive species within the Refuge.

2-4

2. It is our understanding that the Bella Lago landowner has agreed to enclose the entire development area with a six foot high chain-link fence or wall, to prevent encroachment onto the Refuge and to protect the resources within the adjacent preserve area. The final EIR should include the fence or wall as a conservation measure, and should specify that homeowners cannot put gates into the protective barrier.

2-5

In addition, the Area Specific Management Directives (ASMDs) should be updated to reflect the above-mentioned change. Currently, the draft ASMDs indicate that only signage would be posted at some accessible points to the preserve, such as at the end of cul-de-sacs along the eastern property boundary. This is not sufficient to protect biological values of the adjacent undeveloped habitat (refer page 15, I.(a) of Appendix N of the EIR, Area Specific Management Directives).

## Response

2-2

Comments noted. These comments summarize information contained in Section 3, *Project Description*, of the EIR. No responses are necessary.

2-3

The Bella Lago project is a Covered Project in the City of Chula Vista's Draft MSCP Subarea Plan as a result of negotiations, in July 2001, between the applicant, the City, and the United States Fish and Wildlife Service and the California Department of Fish and Game ("Wildlife Agencies"). The City's Draft MSCP Subarea Plan designates Covered Projects as those projects which have delineated hard lines for both conservation areas and development areas. Modifications to the previous development footprint for the Bella Lago project were made based on a review of more updated biological data in order to minimize impacts to sensitive habitats and species both on and off site. The development and open space footprint, as identified in the Draft EIR, depicts the boundaries as negotiated with the Wildlife Agencies. As a condition of coverage in the Draft MSCP Subarea Plan, the project would also be required to incorporate adjacency guidelines to reduce impacts associated with "edge effects" such as those related to lighting, drainage, noise, and invasive species. These measures are directed at minimizing the effect of urban development on-site as well as off-site including the adjacent Refuge. In addition, the project has also included appropriate perimeter fencing, barrier landscaping and signage to isolate development from adjacent open space areas. Short-term construction impacts would also be addressed through incorporation of preserve interface measures, such as staking, fencing, trash control, and monitoring as outlined in the project's Area Specific Management Directives (ASMDs) Section D. Therefore, no significant indirect impacts are anticipated and no additional analysis for the project is warranted.

## Comment

## Response

2-4

Pursuant to the negotiations between the developer, the City, and the Wildlife Agencies, the Bella Lago project would provide six-foot high masonry walls in the publicly accessible areas adjacent to Otay tarplant populations located in the southern portion of the site (See Precise Plan Figure 5-3, *Fence and Wall Plan* and Area Specific Management Directives Figure 6, *Clarkson Turner Otay Tarplant Protection Walls*). Additional walls along the entire perimeter of the property would also be constructed by the developer (See Precise Plan Figure 5-3, *Fence and Wall Plan*). The ASMDs, which are an Appendix to the Final EIR, have incorporated the fence and wall plan as Figure 7.

2-5

The ASMDs have been updated to include the appropriate reference to the fence and wall plan.

## Comment

Mr. Steve Power (FWS-SDG-3341.1)

3. More information is needed regarding the monitoring and management of onsite and offsite preserve areas. It is our understanding that the Bella Lago project is "pieg backing" on the Rolling Hills Ranch management plan in the Johnson Canyon area. The final EIR should clarify if any portion of the Bella Lago project is dependent on the Rolling Hills Ranch monitoring and management plan. If the monitoring and management for the Bella Lago project is combined with the Rolling Hills Ranch project, the combined monitoring and management plan should clearly identify which areas are being preserved for the Bella Lago project and which are being preserved for Rolling Hills Ranch.

4. The ASMDs do not require any monitoring of sensitive species in the preserve areas designated through the Bella Lago project, but rather looks to the monitoring at the San Diego Refuge and cites the MSCP Biological Monitoring Plan (Ogden 1996) to support this approach. Because the 1996 Plan preceded Bella Lago environmental processing and the revised Chula Vista subarea plan, the project should reflect the monitoring recommendations in the revised Chula Vista subarea plan. Without periodic monitoring, it is not possible to evaluate the effectiveness of the ASMDs, other management actions, or implement adaptive management to ensure the persistence of sensitive species on the Bella Lago preserve. We recommend spring monitoring surveys be performed on a regular basis to evaluate persistence of both sensitive plant and wildlife species known to occur on the property. These surveys do not necessarily have to adhere to State or Federal protocols, but should be performed by staff (or volunteers, if qualified) knowledgeable on the sensitive species which occur in this region. At a minimum, species to be considered include Otay tarplant, variegated dudleya, San Diego goldenstars, San Diego barrel cactus, rufous-crowned sparrow, and California gnatcatcher. We also recommend that the presence of other sensitive species, such as the grasshopper sparrow (which is a State Species of Concern and was reported to be "common" onsite), be noted when they are encountered to further illustrate the preserve's function in regional conservation of multiple sensitive species.

5. The final EIR should identify the management entity(ies) for the onsite and offsite preserve areas, and the endowment source. If the endowment for the Bella Lago project and the Rolling Hills project are combined for the Johnson Canyon area, the contributions from each project should be clearly itemized.

6. Trails are discussed throughout the ASMDs and mitigation measure 4.2.b (f) states that "The project shall designate trails along the existing road" (page 7-4 of EIR). It further states (page 16 of Appendix N) that trails will be in the existing dirt roads located in the northern portion of Bella Lago, and continuing east off site and west towards Rolling Hills Ranch. However, no trails have been designated as part of Rolling Hills Ranch environmental processing. Because no trails have been designated, the maintenance needs in draft ASMDs prepared for the Rolling Hills Ranch project have been reduced. If lands to the east have no designated management authority to perform trail maintenance, trash pick-up, or enforcement to ensure sensitive species and habitats are not adversely impacted, then the Bella Lago project must ensure through fencing or other measures that

## Response

2-6 Bella Lago is being developed as a stand alone project; it is not dependent on the approved Rolling Hills Ranch project. There are no requirements in the Bella Lago EIR, the Salt Creek Ranch EIR, or the Bella Lago Area Specific Management Directives for the mitigation areas associated with Bella Lago and Rolling Hills Ranch to be combined. As identified in the EIR, 86.5 acres of on-site mitigation land will be preserved in association with the development of the Bella Lago project. Conservation and an endowment for the long term management of the 2.5 acres of off-site mitigation will also be a condition of the Bella Lago project and will need to be in place prior to issuance of grading permits for the project.

2-7 Pursuant to the MSCP Biological Monitoring Plan (Ogden 1996) approved in conjunction with the overall MSCP Subregional Plan, priority plant and animal species and associated targeted populations were identified for long-term monitoring. Due to the size of the MSCP Subregional Preserve (about 171,000 acres), the Biological Monitoring Plan (page 1-5) acknowledges limitations and identifies a sampling design that monitors representative sites and focal species within the larger Subregional Preserve. The Biological Monitoring Plan was developed in recognition of and provides limitations to the local jurisdictions' share in the monitoring efforts. In the general area of the Bella Lago project, the Biological Monitoring Plan identifies San Miguel Mountain (now part of the San Diego National Wildlife Refuge) as the monitoring location for some of the plant species identified in the comment (i.e. Otay tarplant, variegated dudleya, San Diego goldenstar, San Diego barrel cactus), as well as CSS dependent animal species (e.g. California gnatcatcher, and rufous-crowned sparrow). Plant species are further prioritized (first priority, second priority and third priority) based on those most susceptible species to population declines. No monitoring sites were identified on the Bella Lago site. Therefore species specific monitoring was not required for the Bella Lago ASMDs. It should be noted, however, that the project's ASMDs require an annual assessment report to be prepared, in perpetuity, to monitor the overall quality of the on-site preserved habitat.

## Comment

## Response

2-8 As identified in Mitigation Measure 4.2b, under ASMD No.2, the developer of Bella Lago is required to establish an endowment source for the long-term management of the preserve prior to issuance of grading permits. The developer is currently discussing with the San Diego National Wildlife Refuge the potential for including the 86.5 acres of on-site preserve lands within the adjacent existing Refuge. In the event an agreement cannot be reached with the San Diego National Wildlife Refuge for monitoring, maintenance and management of the Bella Lago on-site preserve lands, Bella Lago, LLC has agreed to fund an endowment in the amount of \$137,500 that will earn interest at the rate of 3.5% (or more) per annum or \$4,812.5 (or more) per year. This would cover the estimated annual management costs of \$ 4,757.50 per year (\$ 55.00 per acre x 86.5 acres on-site).

The endowment will generate a regular revenue stream for use by a managing agency or organization to address the long-term management needs of the preserve. Bella Lago, LLC proposes to fund the maintenance of the preserve open space by posting a one time deposit to a perpetual endowment or City trust account that will generate income similar to the \$55/acre/year amount specified in the Chula Vista MSCP Subarea Plan. Funding for the long-term management of the preserve will be established prior to issuance of grading permits for the residential development. Also, please see Appendix A which has been included in the final ASMDs (Technical Appendix N).

2-9 Urban trails, in the form of sidewalks and bicycle lanes, will be located along roadways within the developed portion of the Bella Lago project. No other trails have been designated within the project area. Trails will not occur in the existing dirt roads located in the northern portion of the project and will not affect sensitive species and habitats. In addition, there are no regional trail systems planned for this area. The ASMDs include a recommendation for general trail locations to provide guidance in the event that a future system is planned in the area.

## Comment

Mr. Steve Power (FWS-SDG-3341.1)

4

these sensitive species and habitats are not burdened by use of the Bella Lago trail system.

7. The Bella Lago ASMDs propose only trail maintenance/inspection and trash removal on a twice a year basis. This is not expected to be adequate to protect sensitive biological resources. Department land managers have noted that preserve areas bordered by residential development require monitoring on at least a monthly basis to ensure that fencing and illegal activities do not affect preserved habitats and sensitive species. Placement of trails for public use only heightens the need for at least monthly site inspections to ensure that preserved habitat is adequately protected.

8. The ASMDs state that "due to the limited number of existing trails on the site, there is no need to remove and restore redundant trails." The EIR and ASMDs should provide specific guidance on the location of trails through the Bella Lago preserve, as well as identify specific measures to protect biological resources known to occur onsite. These may need to be revised based upon the findings from the Baseline Assessment performed during the Preserve Establishment phase (refer 1(b) on page 16 of Appendix N). General considerations of trail siting and use are provided in the Chula Vista Subarea Plan (refer section 7.5.3 of the subarea plan); the ASMDs should therefore be providing specific information for the Bella Lago preserve. Any existing foot-paths or wider trails which are not essential to the trail through the property should be identified, blocked off from public access, reseeded with an appropriate seed mix, and subsequently evaluated if further restoration measures are appropriate. These non-essential trails should not be left available for possible use by hikers or equestrians.

9. The biological monitor should inspect the habitat adjacent to active construction activities (grading, etc.) at least twice a week to ensure that dust control measures are adequately protecting conserved vegetation.

10. The ASMDs state that trash/litter removal will not begin until the first home is completed (refer 1(c) on page 16 of Appendix N). This condition should be modified for the responsibility of trash/litter removal to begin as soon as project construction has been initiated (i.e., commensurate with the taking of habitat) or public access is allowed on the site. This should be performed as needed or at monthly intervals, as recommended in the trail maintenance discussion above.

11. The long-term management phase should identify exotic plant species which should be aggressively treated and not tolerated in the preserve, even in low numbers because they may rapidly spread and are a threat to adjacent preserved habitats. Species included in this category include pampas grass, artichoke thistle, fennel, tumarisk, giant reed, tree tobacco, and possibly other species on List A of the California Exotic Pest Plant Council. Other problematic species, such as mustards, filaree, and some non-native grasses should be evaluated on a regular basis and treated when they threaten habitat values or sensitive species populations.

## Response

**2-10** See Response to Comment No 2-9. There are no public trails proposed within the open space. Due to limited public access, minimal trash and litter is expected in the preserve area. Trash removal will be conducted at a minimum on a semi-annual basis, or as needed.

**2-11** As discussed in Response to Comment No. 2-9, no trails are proposed through the Bella Lago preserve. The only trails proposed are urban trails located along the roadways within the Bella Lago project. The existing road through the northwest corner of the open space provides the Otay Water District with access to a water tower on San Miguel Mountain. The Otay Water District has an easement over that road.

**2-12** Mitigation Measure 4.5a requires the use of dust control measures during construction of the project. In addition, Table 4 in Section D.3 of the ASMDs identifies species specific conditions with which the Bella Lago project must comply. These species specific conditions were included pursuant to the mitigation requirements for the Quino checkerspot butterfly and are outlined in Section 5.2.8.2 of the City's Draft MSCP Subarea Plan. These measures require weekly monitoring if high visibility fencing is utilized, and daily monitoring of limits of disturbance are staked/flagged.

**2-13** Section D.1(c), D. 2(d), and Table 2 of the ASMDs identify both short-term and long-term measures for the reduction of edge effects. Included in these actions is the requirement for litter and trash removal to occur in the short-term, during construction, as well as continue in the long-term.

**2-14** Table 3, *List of Prohibited Invasive Ornamental Plant Species*, of the ASMDs identifies exotic plant species prohibited immediately adjacent to or within the preserve. In addition, the Precise Plan Section V.B.4, *Landscape Architectural Guidelines*, identifies acceptable plant materials for use in the fuel modification zones which are immediately adjacent to the preserve area. These plant restrictions, in addition to the ASMDs adaptive management approach to preserve management, will reduce the potential for any exotic species, including those identified in the comment, to invade the preserve lands.

## Comment

Mr. Steve Power (FWS-SDG-3341.1)

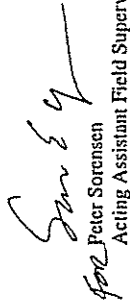
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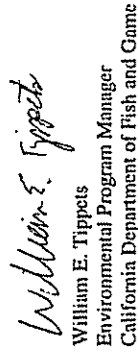
12. The public review document did not provide the Cost Estimate for implementation of the Area Specific Management Directives, and also lacked a graphic (Figure 6 of Appendix N) depicting the location of the block wall/barrier between development and the preserve. The Wildlife Agencies request an opportunity to review and comment on these important components of the ASMDs as soon as it can be made available.

2-15

The Wildlife Agencies appreciate the opportunity to comment on the draft EIR for the Bella Lago Precise Plan, Rezone, and Tentative Tract Map project. We are available to work with the City of Chula Vista and their consultants to address these concerns. Please contact Sandra Marquez of the Service at (760) 431-9440 extension 268 or David Mayer of the Department at (858) 467-4234 if you have any questions or comments concerning this letter.

Sincerely,

  
for Peter Sorensen  
Acting Assistant Field Supervisor  
U.S. Fish and Wildlife Service

  
William E. Tippetts  
Environmental Program Manager  
California Department of Fish and Game

cc: State Clearinghouse

## Response

- 2-15 See Response to Comment No. 2-8. Also, Section E of the ASMDs provides the cost estimate for long term management of the preserve lands. The cost estimate is consistent with the funding obligations identified in Section 8 of the City's Draft MSCP Subarea Plan. Appendix A has been included in the final ASMDs. The location of the wall between the development and the preserve is shown in Figure 5-3, *Fence and Wall Plan* of the Bella Lago Precise Plan. This figure has been included in the final ASMDs as Figure 7.

## Comment



### CHULA VISTA ELEMENTARY SCHOOL DISTRICT

84 EAST "J" STREET • CHULA VISTA, CALIFORNIA 91910 • 619-425-9600

EACH CHILD IS AN INDIVIDUAL OF GREAT WORTH

February 11, 2003

BOARD OF EDUCATION  
CHERYL S. CUD, LEAD  
LARRY CUNNINGHAM  
PATRICK A. JORD  
BETHA L. LOFTZ  
PAMELA B. SMITH  
SUPERINTENDENT  
TIMA S. GIL, M.D.

Mr. Steve Power  
Environmental Projects Manager  
City of Chula Vista  
276 Fourth Ave.  
Chula Vista, Ca. 91910

Dear Mr. Power:

Re: Bella Lago Precise Plan, Rezone, and Tentative Tract Map  
Draft Environmental Impact Report  
Case No: EIR-02-05

Thank you for the opportunity to respond to the Environmental Impact Report for the above-mentioned project. Please be advised that the project is located within the Chula Vista Elementary School District, which serves children from K - 6.

During the 2001-2002 school year, the District experienced a 4 percent increase in enrollment. During the coming years, we expect growth to continue at a rate of 4 percent. Permanent capacity has been exceeded at many schools and temporary relocatable classrooms are being utilized to accommodate increased enrollments. The District also buses students outside their attendance areas, both to accommodate growth and to support parent choice options.

State law currently provides for a developer fee of \$1.49 per square foot of assessable area to assist in financing facilities needed to serve growth. This fee is assessed for new residential construction and for additions or remodels of over 500 square feet.

The District encourages developer participation in an alternative financing mechanism to help assure that facilities will be available to serve children generated by new construction. We are currently utilizing Community Facilities Districts (CFD's) as one method to help fund this shortfall. Participation in a CFD is in lieu of developer fees, with school mitigation paid by the homeowner in the form of a special tax. An alternative financing mechanism, such as participation in, or annexation to a CFD, is recommended.

## Response

**3-1** Comment noted. As discussed on page 4.11-21 of the EIR, the proposed project is within the Chula Vista Elementary School District.

**3-2** Comment noted. As identified by Mitigation Measure 4.11f-1, the developer is required to pay school impact fees or participate in an alternative financing mechanism to mitigate the project's impact on the Chula Vista Elementary School District.

**3-3** Comment noted. As identified by Mitigation Measure 4.11f-1, the developer is required to pay school impact fees or participate in an alternative financing mechanism to mitigate the project's impact on the Chula Vista Elementary School District. Since the exact timing for construction of Bella Lago is unknown at this time, a set developer fee amount has not been identified. Rather, if school impact fees are used to mitigate the project's impacts on schools, the developer would pay the applicable developer fees, which currently are \$1.49 per square foot of assessable area, prior to issuance of building permits.

**3-4** Based on the District's recommendation that the developer of Bella Lago participate in an alternative financing mechanism, such as a community facilities district, Mitigation Measure 4.11f-1 has been revised to read as follows:

*Prior to issuance of building permits, the project applicant shall pay school impact fees or participate in an alternative financing mechanism, such as a Community Facilities District, to help finance the needed facilities and services for the Chula Vista Elementary and the Sweetwater Union High School Districts to the satisfaction of the School Districts.*



Comment

Mr. Steve Power  
Page 2  
2/11/03

If you have any questions, please give me a call at (619) 425-9600 ext. 1375.

Sincerely,



Dee Peralta  
Planning & Facilities Supervisor

DP/tp

Response

## Comment



Katy Wright  
Director of Planning & Construction

February 12, 2003

City of Chula Vista  
Planning Department  
Attn: Steve Power  
276 Fourth Avenue  
Chula Vista, CA 91910

Re: Case No. EIR-02-05 Bella Lago

Dear Mr. Power,

The above proposed project will have a significant impact on the Sweetwater Union High School District. A majority of the schools in our district, serving grades 7 through 12, are operating at capacity.

It is the policy of the school district to request new development to fully mitigate for growth impacts through participation in a community facilities district (CFD). The District has had informal discussions with the developer regarding the formation of a new CFD with tax rates structured for large dwelling units.

We request the city to encourage the developer to move forward in this process to fully mitigate the impact of this development. Failure to fully mitigate the development may impact our ability to properly serve this project.

If you should need additional information, please contact me at (619) 691-5553.

Sincerely,

A handwritten signature in black ink, appearing to read "KWright", written over a horizontal line.

Katy Wright  
Director of Planning and Construction

1130 FIFTH AVENUE CHULA VISTA CALIFORNIA 91911  
PHONE (619) 691-5553 FAX (619) 420-0350

## Response

4-1

Comment noted. Section 4.11f, *Utilities and Public Services - Schools*, discusses the impacts of the Bella Lago project on the Sweetwater Union High School District. Bella Lago was found to have a significant impact on the Sweetwater Union High School District and mitigation was identified to reduce this impact to a level below significance.

4-2 Please see response No. 3-4.

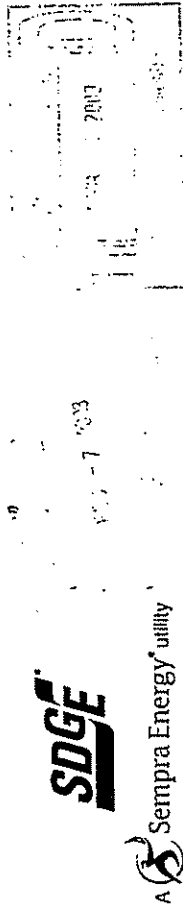
4-3 Please see response No. 3-4.

4-1

4-2

4-3

## Comment



February 6, 2003

Steve Power, AICP, Environmental Projects Manager  
City of Chula Vista  
Planning and Building Department  
276 Fourth Avenue  
Chula Vista, California 91910

Subject: Bella Lago Precise Plan, Rezone and Tentative Tract Map Draft Environmental Impact Report

Dear Steve:

San Diego Gas & Electric Company (SDG&E) is responding to your request for comments on the Draft EIR for the above-referenced project. The following information is provided for your consideration:

- Please note that access to transmission and distribution facilities must be provided during and after construction.
- Proposed access roads and grading must comply with SDG&E Guidelines for any encroachment to, and into the transmission right-of-way. Furthermore, any grading to be performed within SDG&E right-of-way would require a "permission to grade letter" from SDG&E.
- SDGE has not agreed to the proposed deposition of fill materials on the ROW resulting from grading of the project, as noted on page 4-31 of the October 2002 Bella Lago Precise Plan. Any such action will require explicit written approval from SDGE Land Management, Civil Engineering and Land Planning and Natural Resources.
- Any changes in grade shall not direct drainage in a manner that increases the potential for erosion around SDG&E facilities or access roads.
- Project grades shall be coordinated to assure clearances as required by California Public Utilities Commission General Order 90-95.

## Response

**5-1** Comment noted. Access to transmission and distribution facilities will be provided during and after construction of the Bella Lago project.

**5-2** Comment noted. The proposed project will comply with SDG&E Guidelines regarding encroachment to and into the transmission right-of-way. Since the proposed project will include grading in the transmission right-of-way for the proposed access roadway, it is understood that the project applicant would be required to obtain a "permission to grade letter" from SDG&E prior to work within the right-of-way.

**5-3** Comment noted. It is understood that the deposition of fill materials within the utility easement would require approval from SDG&E Land Management, Civil Engineering and Land Planning and Natural Resources.

**5-4** Comment noted. Grading for the proposed roadway, which would be located within the SDG&E utility easement would not increase the potential for erosion around the SDG&E transmission facilities or access roads. As part of the proposed project, mitigation for drainage and erosion impacts would be implemented through BMP's.

**5-5** Comment noted. All project grades will be coordinated to assure clearances, as required by California Public Utilities Commission General Order 90-95.

## Comment

City of Chula Vista  
Page 2  
February 6, 2003

- 5-6 Although the draft EIR does not identify any proposed trails within SDG&E's right-of-way, any such proposed use would be considered on a case-by-case basis and would require a Consent to Use of Land Agreement.
- 5-7 Any temporary or permanent relocation of facilities or placement of facilities underground and/or associated temporary outages shall be completed at the cost of the project developer.
- 5-8 Access to transmission facilities must be provided during and after construction. Access is critical to the continued maintenance, periodic insulator washing, repair, upgrade, relocation, or construction of SDG&E's facilities. Any grading or improvements that affect access to and along the easements and/or transmission lines, will require written consent from SDG&E.
- 5-9 Landscaping, revegetation and/or habitat enhancement plans for the project shall not inhibit SDG&E's access to facilities for purposes including, but not limited to, construction, upgrading, repair, operation or maintenance and shall not provide habitat for or encourage endangered species. SDG&E must review and give written approval for all landscape plans affecting its transmission corridor.
- 5-10 All project plans that affect or could affect SDG&E facilities and/or right-of-way should be coordinated with Ms. Kathy Babcock of SDGE Land Management at (858) 654-1271.

We appreciate the opportunity to comment on this document. If you have any questions, please feel free to contact me at (619) 696-2415.

Sincerely,

*Beverly E. Blessett*  
Beverly E. Blessett, AICP  
Senior Land Planner

cc: Kathy Babcock  
Gary Vogt

S:\LAND\data\BLESSETT\GeneralCorrespondence\BellaLagoEIRrev.doc

## Response

- 5-6 Comment noted. The proposed project does not include any trails within the SDG&E right-of-way; therefore, a Consent to Use of Land Agreement is not required.
- 5-7 Comment noted. The developer of Bella Lago shall bear all costs associated with any temporary or permanent relocation of facilities or placement of facilities underground and/or associated temporary outages.
- 5-8 Comment noted. Access to the SDG&E facilities would be available throughout the entire construction period and after project completion.
- 5-9 Comment noted. Landscaping, revegetation and/or habitat enhancement plans for the project will comply with the Area Specific Management Directives developed for the Bella Lago project. These will not inhibit access to SDG&E facilities.
- 5-10 Comment noted.

## Comment



THE CITY OF SAN DIEGO

February 7, 2003

City of Chula Vista  
Planning Department  
Attn: Mr. Steve Power  
276 Fourth Avenue  
Chula Vista, CA 91910

Dear Mr. Power:

Subject: Notice of Availability of the Draft Environmental Impact Report for the  
Bella Lago Precise Plan, Rezone and Tentative Tract Map

We have completed our review of the subject Notice of Availability of the Draft Environmental Impact Report (DEIR) dated December 2002. The project proposes development of 93.1 acres of the approximately 180-acre site with low-density, estate residential land uses. The remaining 86.5 acres would be conserved as a Preserve area. Additionally, 2.5 acres of off-site mitigation land would be acquired as part of the project.

The project site is located in the northernmost reach of the Eastern Territories Planning Area of the City of Chula Vista. It is located immediately to the northeast of Rolling Hills Ranch, southeast of San Miguel Mountain and northwest of the Upper Otay Reservoir.

We understand that Best Management Practices for the prevention of water pollution in the City of San Diego's watershed have been addressed and will be implemented. We have no further comments at this time.

If you have any questions or require further information, please call me at (619) 533-5150.

Shahn Moshref, P.E.  
Senior Civil Engineer

cc: Kelly Broughton, Deputy Director, Development Services  
Marsi Steiner, Deputy Director, Water Department  
Chris Gascon, Associate Civil Engineer, Development Services

012721



Land Development Review Division • Planning and Development Review  
603 S. Street, Suite 500, MS 103A • San Diego, CA 92101-4502

## Response

6-1 Comment noted. No response is necessary.

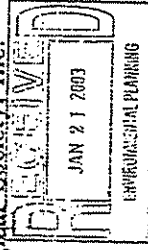
## Comment



### San Diego County Archaeological Society, Inc.

Environmental Review Committee

20 January 2003



To: Mr. Steve Power  
Environmental Projects Manager  
City of Chula Vista  
276 Fourth Avenue  
Chula Vista, California 91910

Subject: Draft Environmental Impact Report  
Bella Lago Precise Plan, Rezone, and Tentative Tract Map

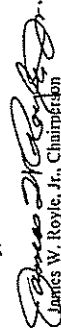
Dear Mr. Power:

I have reviewed the cultural resources aspects of the subject DEIR on behalf of this committee of the San Diego County Archaeological Society.

Based on the information contained in the DEIR and its Appendix E, we agree with the impact analysis and mitigation measures for cultural resources as presented.

Thank you for including SDCAS in the City's environmental review process for this project.

Sincerely,

  
James W. Royle, Jr., Chairperson  
Environmental Review Committee

cc: Affinis  
SDCAS President  
File

P.O. Box 81106 • San Diego, CA 92138-1106 • (619) 538-0935

7-1

## Response

7-1 Comment noted. No response is necessary.

## Comment



February 10, 2003

Steve Power  
Environmental Projects Manager  
City of Chula Vista  
276 Fourth Avenue  
Chula Vista, CA 91910

Re: EIR-02-05  
Bella Lago Precise Plan, Rezone, and Tentative Tract Map Draft EIR

Dear Steve:

McMillin Rolling Hills Ranch, LLC, is the owner of the remaining undeveloped portions of the Rolling Hills Ranch project adjacent to Bella Lago on its westerly boundaries. We have had the opportunity to review the above referenced draft Environmental Impact Report ("EIR"), and offer the following comments:

At page ES-9, and 4.7-12, proposed mitigation measure 4.7c appears to duplicate the mitigation condition offered in 4.7a, rather than clearly identify the requirement for fair share signal mitigation at the intersection of Proctor Valley Road and Hunte Parkway. We assume this is a "cut and paste" error, and that measure 4.7c will be edited to require mitigation at the Proctor Valley Road/Hunte Parkway intersection.

At pages ES-9 and 10, measure 4.7d appears to be missing some language.

At page ES-17, and 4.11-23, when discussing the impact on middle and high schools, the text incorrectly identifies the project as "40 single-family residential units." We assume this is a typographical error that does not affect the significance analysis.

At page 4.2-10 the text contains some ambiguity in its discussion of the mitigation that Rolling Hills Ranch has and will provide pursuant to the draft MSCP plan. We suggest the language be rewritten as follows: "The impacts to habitat resulting from the Rolling Hills Ranch project will be mitigated through the conservation of approximately 314.6 acres of upland habitat, which is comprised of approximately 265.9 acres on-site and approximately 48.7 acres elsewhere in the MSCP Subregional Preserve. In addition, the Rolling Hills Ranch project would contribute, comprised of the following off-site mitigation:..."

At page 4.2-10, please also be aware that mitigation items 3 through 5 were for impacts in earlier phases of the project, outside of Subarea III.

McMillin Realty McMillin Monterey McMillin Land Development McMillin Homes McMillin Commercial  
CORPORATE OFFICE 3277 GARDEN AVENUE NATIONAL CITY, CA 91940 TEL (619) 417-4117 FAX (619) 236-3117 [www.mcmiller.com](http://www.mcmiller.com)

## Response

**8-1** Mitigation Measure 4.7c was intended, and has been revised, to read, "Proctor Valley Road/Hunte Parkway – Prior to the approval of the first final map for the project, the applicant shall contribute fairshare towards the construction and securing of a fully activated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaries at the Proctor Valley Road/Hunte Parkway intersection. The timing of the installation and the design of the signal shall be to the satisfaction of the City Engineer," consistent with the traffic report prepared for Bella Lago by Linscott, Law and Greenspan.

**8-2** The Executive Summary has been revised to include the proper mitigation for Mitigation Measure 4.7d, as identified in Section 4.7 of the EIR.

**8-3** The typo, which incorrectly identifies the project as "40 single-family residential units," has been revised to read "140 single-family residential units," in the Executive Summary and Section 4.11.

**8-4** To clarify the mitigation that Rolling Hills Ranch must provide, the text on page 4.2-10 has been revised as follows:

*The impacts to habitat resulting from the Rolling Hills Ranch project will be mitigated through the conservation of approximately 314.6 acres of upland habitat, which is comprised of approximately 265.9 acres on-site and approximately 48.7 acres elsewhere in the MSCP Subregional Preserve, comprised of the following off-site mitigation:...*

**8-5** Comment noted.

## Comment

Mr. Steve Power  
February 10, 2003  
Re: EIR 02-05  
Page Two

8-6 At page 4.2-17, we are concerned that mitigation measure 4.2c does not fully address all of the mitigation requirements necessary to advance construction of access to Bella Lago through Rolling Hills Ranch. This requirement needs to be expanded to require the developer of Bella Lago to comply with the additional mitigation requirements, beyond ASMD's, that may be necessary of the Rolling Hills Ranch project. These may include, but are not necessarily limited to, the off-site purchase of mitigation property.

8-7 At figure 4.11-2 on page 4.11-5, the figure title "Recommended Sewer Facilities for the Rolling Hills Ranch Project" is misleading because the figure includes all of the on-site sewer facilities for Bella Lago. Please revise the figure to clearly indicate that no on-site sewer facilities within the Bella Lago property are recommended for the construction of Rolling Hills Ranch.


8-8 At page 4.11-21, please note that the analysis under the heading "Secondary School" is false. There is no middle school located within Rolling Hills Ranch.

8-9 At page 5-2, please note that Tentative Map 92-02 for Salt Creek Ranch (now known as Rolling Hills Ranch) includes approval for a total of 2,616 residential units.

Thank you for the opportunity to identify our concerns. We look forward to receiving a copy of the final EIR which adequately addresses these items.

Regards,

McMillin Rolling Hills Ranch, LLC

  
(Dave Galske)  
Vice President

cc: Tom Tomlinson  
Frank Zaidle  
Rodney Lubojasky

## Response

8-6 If the Bella Lago project precedes development of Phase III of Rolling Hills Ranch, the developer of Bella Lago will be required to construct the necessary infrastructure to provide access and services to Bella Lago through the Rolling Hills Ranch project as discussed in Sections 4.7 and 4.11 of the EIR. Mitigation measures for the implementation of Phase III of the Rolling Hills Ranch are based on development of the entire phase, not just the roads and accompanying infrastructure. If it is determined that impacts to sensitive biological habitats would occur from the infrastructure construction, that construction would be subject to the conditions of the City's MSCP Subarea Plan for the Rolling Hills Ranch. Should the development occur prior to approval of the subarea plan, the developer will be required to obtain the necessary permits from the Resource Agencies for the impacts to sensitive biological habitats that would be impacted by the development of the infrastructure only. Specific mitigation requirements would be determined at the time of the proposed development.

8-7 Figure 4.11-2, *Recommended Sewer Facilities for the Rolling Hills Ranch Project*, has been revised to clarify the sewer facilities for the Rolling Hills Ranch project site. No on-site sewer facilities within the Bella Lago property are required as part of the Rolling Hills Ranch project.

8-8 There is no proposed middle school in the Rolling Hills Ranch community. The planned middle school is within San Miguel Ranch. Since the school is not within the Rolling Hills Ranch community, the development of Rolling Hills Ranch does not affect the analysis of the Bella Lago project with regards to schools. Therefore the discussion of school impacts resulting from implementation of Bella Lago would be the same if Bella Lago developed prior to or after the Rolling Hills Ranch project. Pages 4.11-22 through 4.11-25 of the EIR have been revised to accurately refer to the location of the planned middle school and omit the two scenario analysis for the development of Bella Lago.

8-9 Pursuant to Tentative Map 92-02, the total number of residential units for Salt Creek Ranch identified on page 5-2 of the EIR has been revised to read 2,616 residential units.



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## EXECUTIVE SUMMARY

### INTRODUCTION

This Environmental Impact Report (EIR) is an informational document intended for use by the City of Chula Vista, other public agencies, and members of the general public in evaluating the potential environmental effects of the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project. This EIR has been prepared in accordance with criteria, standards, and procedures of the California Environmental Quality Act (CEQA) of 1970 as amended (PRC § 21000 et seq.), State CEQA Guidelines (CAC § 15000 et seq.), and the City of Chula Vista's EIR requirements. Per Section 21067 of CEQA and Sections 15367 and 15050 through 15053 of the State CEQA Guidelines, the City of Chula Vista is the *Lead Agency* under whose authority this document has been prepared.

The proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would construct large, single-family homes on estate lots on approximately half (93.1 acres) of an approximate 180-acre site; the remaining half of the property (86.5 acres) would be conserved as a Preserve area in accordance with the City's Draft Multiple Species Conservation Program (MSCP) Subarea Plan. The proposed development includes the creation of 140 estate lots with an average lot size of 23,413 square feet. The majority of Preserve lands are located in the majority of the northern portion of the site.

### Environmental Review Process

The City of Chula Vista has determined that a project EIR would be required for the proposed development project, in accordance with Section 15060(d) of the CEQA Guidelines. A project EIR examines the environmental impacts of a specific development project, which in this case is the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project. This EIR focuses on the physical changes in the environment that would result from the proposed project.

As part of the environmental review process for the project, the City of Chula Vista circulated a Notice of Preparation (NOP) of a Draft EIR on May 22, 2002, to inform other agencies, special districts, surrounding cities, and other individuals that it intends to prepare an EIR for the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project. The purpose of the notice was to solicit guidance from affected agencies and the public in general regarding the scope and content of the environmental information to be included in the EIR. Agencies and individuals receiving copies of the NOP had 30 days to respond.

The Draft EIR is subject to a public review period of 45 days, during which comments to the environmental analysis are accepted from interested agencies and individuals. Responses to these comments shall be prepared and incorporated in the Final EIR, prior to the certification of the EIR and the Chula Vista City Council's action on the proposed project. Section 1.0, *Introduction*, of this EIR discusses the uses and purposes of the EIR.

### PROJECT LOCATION AND SETTING

The regional and local setting of the project site is discussed in Section 2.0, *Environmental Setting*, of this EIR. The project is located in the northeastern most reaches of the Eastern Territories Planning Area, within the City of Chula Vista in the County of San Diego. The site is located immediately to the northeast of

Rolling Hills Ranch, southeast of San Miguel Mountain, and northwest of the Upper Otay Reservoir. North City Preserve Management Area lands, consistent with the City's Draft MSCP Subarea Plan, surround the project site on the north, east and south sides, while an approved residential community (Rolling Hills Ranch) borders the project site on the west.

The Bella Lago project is dependent on the development of approved Rolling Hills Ranch Subarea III for access to the site; however, currently Subarea III is undeveloped. If Bella Lago developed prior to the development of Rolling Hills Ranch Subarea III, then the developer of Bella Lago must construct the roadways through Subarea III as part of the Bella Lago project. Under this scenario, the off-site area where the roadways would be constructed would become part of the project area. This EIR relies on the analysis contained in the certified environmental document prepared for Rolling Hills Ranch Subarea III (originally called Salt Creek Ranch) and presented in the Salt Creek Final and Supplemental EIRs (SCH #89092721), which have been incorporated by reference in accordance with CEQA Guidelines.

### PROJECT DESCRIPTION

The proposed Bella Lago residential project is comprised of three major elements: a Precise Plan (PP), a Rezone (RZ), and a Tentative Tract Map (TM). Approvals from the City of Chula Vista for the PP, RZ, and TM are required. The Bella Lago Precise Plan establishes development regulations and standards for Bella Lago; refines and implements goals, objectives and policies of the City's General Plan; and establishes the planning design parameters for the site. The Precise Plan establishes development parameters for Bella Lago, including: development plan with internal circulation and conceptual grading; specific development requirements, including affordable housing, park land acquisition and development, public facilities and development phasing; and parcel specific development regulations, design guidelines and administrative procedures.

The proposed project would rezone the approximately 180-acre Bella Lago site from Planned Community (P-C) to Residential Estate (R-E) with a Precise Plan (P) Modifying District. This rezone is consistent with the site's General Plan designation of Residential Low (0-3 dwelling units (du) per acre).

The Tentative Tract Map would establish infrastructure requirements that would enable the preparation of an application for Design Review. The Tentative Map subdivides the approximately 180-acre site into 140 residential lots and four open space lots. Residential lots would range in size from 15,008 square feet to 97,549 square feet, with an average pad size of 16,143 square feet. The open space lots would encompass 86.5 acres.

If Bella Lago developed prior to the approved Rolling Hills Ranch Subarea III, then the project must also develop roadways through the Rolling Hills Ranch property. The roadways would be constructed in accordance with the approved plans for Rolling Hills Ranch, including required mitigation measures associated with construction of off-site improvements necessary to serve the Bella Lago project. All applicable mitigation measures contained in the Rolling Hills Ranch environmental documents [i.e., Salt Creek Final and Supplemental EIRs (SCH #89092721)] associated with construction off-site improvements necessary to serve Bella Lago shall be implemented by the developer of Bella Lago, if development in Bella Lago occurs prior to development approved for Subarea III of Rolling Hills Ranch.

In addition, the project must comply with the City's Draft MSCP Subarea Plan. The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project is a "Covered Project" under the Subarea Plan. A "Covered

Project” is defined as a project within the City of Chula Vista in which hard-line Preserve boundaries have been established and conservation in those designated areas shall be consistent with the project’s plan and approvals. A total of 86.5 acres of habitat land found on-site would be conserved as part of the North City Preserve Management Area in accordance with the Draft MSCP Subarea Plan. An additional 2.5 acres of mitigation land would be purchased in an off-site location, consistent with the Draft Subarea Plan.

### SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

Section 4.0, *Environmental Impact Analysis*, of this EIR includes a discussion of potential environmental effects associated with the project. Due to the project’s reliance on proposed roadways through Neighborhoods 10B and 11 of Rolling Hills Ranch for access to the site, and the uncertainty of the timing for development of these neighborhoods, two scenarios have been considered in the environmental evaluation: 1) Development of Bella Lago After Development of Subarea III of Rolling Hills Ranch, and 2) Development of Bella Lago Prior to Development of Subarea III of Rolling Hills Ranch.

The analysis in Section 4.0 shows that the proposed project, if developed after Subarea III of Rolling Hills Ranch, is not expected to have any significant impacts in terms of Land Use, Planning and Zoning; Utilities and Public Services; Hazards and Hazardous Materials; and Compliance with the City Threshold and Standards Policy and Findings of Fact. Therefore, no mitigation measures have been developed for these issue areas. The analysis in Section 4.0 of this EIR also indicates that the proposed project, if developed after Subarea III of Rolling Hills Ranch, has the potential for significant environmental impacts associated with Air; Noise; Biological Resources; Landform Alteration/Aesthetics; Cultural Resources; Traffic, Circulation, and Access; Paleontological Resources; Hydrology/Drainage/Water Quality; and Geology and Soils. The EIR includes measures which, when implemented, reduce potentially significant impacts for Air, Noise, Biological Resources, Landform Alteration/Aesthetics, Cultural Resources, Traffic, Circulation, and Access, Paleontological Resources, Hydrology/Drainage/Water Quality, and Geology and Soils to below a level of significance. There are no significant impacts which cannot be mitigated to below a level of significance.

If Bella Lago developed prior to Subarea III of Rolling Hills Ranch, then the project would have the potential for additional significant impacts to Biological Resources, Landform Alteration, Cultural Resources, Traffic, Circulation, and Access, and Public Services and Utilities. The analysis of all off-site improvements remains unchanged from the analysis contained in the certified environmental documents prepared for Rolling Hills Ranch Subarea III. Impacts to these issue areas have been addressed in the Salt Creek Final and Supplemental EIRs (SCH #89092721) and are summarized in this EIR for the portion of Rolling Hills Ranch that would be affected by the Bella Lago project under this scenario.

Table ES-1, *Summary of Environmental Impacts and Mitigation Measures*, summarizes the potential environmental impacts of the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project by issue area if Bella Lago developed after Subarea III of Rolling Hills Ranch, as analyzed in Section 4.0 of this EIR. Table ES-2, *Additional Environmental Impacts and Mitigation Measures if Bella Lago Developed Prior to Rolling Hills Ranch Subarea III*, identifies the additional potential environmental impacts by issue area, as identified in Section 4.0 of this EIR. The tables also provide a summary of the mitigation measures proposed to avoid or reduce significant impacts. Responsibilities for monitoring compliance with each mitigation measure are provided in Section 7.0, *Mitigation Monitoring and Reporting Program*. The significance of environmental impacts after implementation of the recommended mitigation measures is provided in the last column of Tables ES-1 and ES-2.



**TABLE ES-1**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<b>LAND USE, PLANNING AND ZONING</b>			
The proposed project would comply with the applicable land use, planning, and zoning regulations, and no significant impacts would occur. A significant change to the character of the site would occur; however, the development of the project site is anticipated in the General Plan and therefore is not considered a significant impact.	No significant impacts.	No mitigation measures required.	Impacts would not be significant.
<b>BIOLOGICAL RESOURCES</b>			
The proposed project may result in significant adjacency lighting, noise, drainage, and invasive species impacts to the Preserve.	Significant before Mitigation.	<p>Measure 4.2a Direct impacts to sensitive habitat and wildlife species associated with the project would be lessened to below a level of significance with the implementation of the following mitigation measures.</p> <ul style="list-style-type: none"> <li>◆ Prior to the issuance of the first Final Map, the developer shall preserve on-site a total of 86.5 acres of on-site biological open space, which includes areas with populations of Otay tarplant, San Diego goldenstars and barrel cactus. In addition to preservation of the on-site biological open space, the applicant shall purchase 2.5 acres of habitat in Johnson Canyon or comparable area to be approved by the City of Chula Vista and the wildlife agencies. The proposed mitigation site includes a large population of Otay tarplant, a narrow endemic. This will bring the project's open space total to 89 acres.</li> <li>◆ Prior to the issuance of the first Final Map, the developer shall also limit its encroachment into the Otay tarplant at 19 percent; a 20 percent encroachment is acceptable. The project shall mitigate the loss by the purchase of off-site habitat twice the area of impact. The applicant has agreed to purchase approximately 15,000 square feet of habitat in Johnson Canyon which supports large populations of Otay tarplants.</li> </ul> <p>Measure 4.2b Adjacency impacts associated with the project would be lessened to below a level of significance with the implementation of the following mitigation measures.</p> <p>Development within the Bella Lago boundaries shall follow adjacency guidelines (MSCP Section 7.5.2 of the October 2002 draft of the Chula Vista Subarea Plan), including providing for:</p>	Less than Significant after Mitigation.

# EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>a) Prior to the issuance of the first Building Permit, as identified by the Tentative Map for the Bella Lago project, a six-foot, solid block masonry wall or other barrier as approved by the Chula Vista Fire Marshal shall be constructed for adequate fire management in the eastern and southern boundaries of the Clarkson/Turner properties where the tarpant is to be preserved.</p> <p>b) Prior to the issuance of the first Building Permit, as identified by the Tentative Map for the Bella Lago project, the block wall shall be constructed to be located no closer than 25 feet from the nearest Olay tarpant. No developed area, including non-native landscaping, will be closer than 25 feet from the nearest Olay tarpant which is being avoided.</p> <p>c) Prior to issuance of the first Grading Permit, in accordance with the Tentative Map, the developer shall demonstrate to the satisfaction of the Environmental Review Coordinator that project lighting will be directed away from the preserve.</p> <p>d) Prior to issuance of the first Grading Permit, in accordance with the Tentative Map, the developer shall demonstrate to the satisfaction of the Environmental Review Coordinator that project runoff will be directed away from the preserve to the greatest extent possible.</p> <p>e) Prior to issuance of the first Grading Permit, the developer shall demonstrate to the satisfaction of the Environmental Review Coordinator how the project will observe seasonal restrictions on grading (as required by the wildlife agencies) to avoid noise impacts to nesting birds, and the project shall incorporate noise-reduction measures during project construction.</p> <p>f) Prior to issuance of the first Grading Permit, the developer shall demonstrate to the satisfaction of the Environmental Review Coordinator how the project will direct human access to the preserve away from the Olay tarpant and variegated dudleya locations. The project shall designate trails along the existing road. Other than preserve managers, the project shall not allow any public/private access into the preserve areas from the Clarkson/Turner properties without the concurrence of the wildlife agencies.</p> <p>◆ Prior to the issuance of the first Building Permit and the first Grading Permit, the developer shall demonstrate compliance with the City's Quino checkerspot butterfly habitat restoration efforts outlined in Section 7.4.3.2 of the City's draft MSCP Subarea Plan.</p>	Less than Significant after Mitigation.

# EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>♦ Area Specific Management Directives (ASMDs) for Bella Lago have been developed in accordance with the City's draft MSCP Subarea Plan and shall be incorporated into the development of Bella Lago. The ASMDs are included as Appendix N to this EIR and are summarized as follows. Prior to issuance of the first Building Permit, the developer shall demonstrate compliance with the following mitigation measures:</p> <ol style="list-style-type: none"> <li>1. <u>Establishment of Preserve: Short-Term/Construction Management and Implementation of Project Conditions of Coverage</u> During this initial phase of management, the developer shall preserve establishment by handling it as a private site improvement requirement. The developer would be fully responsible for funding any required walling/fencing, signage and other maintenance work required to establish a defensible biological preserve. Work would be completed through private contracting. Any contractors utilized during the preserve establishment phase will be approved by the City of Chula Vista. Minimum qualifications of the biological monitor shall be those of a biological consulting firm on the City of Chula Vista's approved list. Work associated with the preserve establishment phase would be bonded as determined necessary by the City. The bonds will be released upon fulfillment of work under, as determined by the City. Costs for the completion of the preserve establishment period work are outlined in the ASMDs. Management elements proposed during the establishment of Preserve phase include Project specific Conditions of Coverage, as described above and outlined in Section D of the ASMDs.</li> <li>2. <u>Long-term Management Phase</u> This phase is marked by the completion of adjacent construction and finalization of all establishment management elements (as defined above), including conveyance of preserve areas to the city or other appropriate management entity. Long-term management elements for the preserve areas include the following: <ol style="list-style-type: none"> <li>a. Access controls.</li> <li>b. Invasive species control.</li> <li>c. Resident Outreach/Information Dissemination.</li> <li>d. Trash/Litter removal.</li> <li>e. Trails.</li> <li>f. Annual Assessment of Preserve Habitat Value.</li> </ol> </li> </ol>	

# EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Long-term perpetual management of the preserve area will be financed through establishment of an endowment fund to generate a regular revenue stream for management use by a managing agency or organization to address the long-term management needs of the preserve. Bella Lago proposed to fund the maintenance of the preserve open space by posting a one-time deposit to a perpetual endowment or City trust account that will generate income similar to the \$55/acre/year amount specified in the Chula Vista MSCP Subarea Plan. Funding for the long-term management of the preserve will be established prior to issuance of grading permits for the residential development.</p> <p>3. Species-Specific Management Directives The Bella Lago project shall follow the directives for certain covered species, as identified in Table 4 of the ASMDs (see Appendix N).</p>	
<p><b>LANDFORM ALTERATIONS/AESTHETICS</b></p> <p>Grading of the project site would generally follow the natural, gently sloping topography of the developable portion of the site, reducing the project's impact to landform. Building pads would be terraced up the hillside, following the existing contours of the site, replacing the natural topography with a graded, manufactured landform. Development would occur on approximately half (93.1 acres) of the project site, leaving more than 86.5 acres in natural open space, maintaining the native topography in that area. Additionally, the General Plan anticipates that grading would occur on the site in order to accommodate the designated Residential Low lands use. Impacts to landform and aesthetics would not be considered significant.</p>	No significant impacts.	No mitigation measures required.	Impacts would not be significant.
<p><b>NOISE</b></p> <p>The Bella Lago project would result in potential noise impacts on adjacent residents within Neighborhoods 10B and 11 of the Rolling Hills Ranch project due to construction and rock blasting activities. Potential noise impacts on wildlife may also occur due to construction activities if construction occurs during the California gnatcatcher breeding season.</p> <ul style="list-style-type: none"> <li>Construction and rock blasting activities could impact future residents of Rolling Hills Ranch, if the approved Rolling Hills Ranch project developed prior to Bella Lago.</li> <li>Construction activities may lead to noise related impacts to threatened or endangered noise-sensitive species, particularly birds.</li> </ul>	Significant before Mitigation.	<p>Measure 4.4a: As a condition of approval of the first grading permit, the applicant shall be required to limit all construction and rock blasting activities to between 7 AM and 7 PM Monday through Saturday.</p> <p>Measure 4.4b: Prior to the approval of the first grading permit, the applicant shall submit a construction noise mitigation plan for the review and approval of the Environmental Review Coordinator, that incorporates seasonal avoidance, alternative equipment or temporary barriers on a habitat-specific basis to achieve a less than significant impact during the nesting/breeding season.</p>	Less than Significant after Mitigation.

# EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<b>AIR QUALITY</b> Clearing of the project site, excavating for utilities, the preparation of foundations and footings, and construction of any "hardscape" would create temporary emissions of dusts during the project construction period.	Significant before Mitigation.	<p>Measure 4.5a Project construction shall implement enhanced dust control measures to maintain a less-than-significant impact associated with air quality during construction. Enhanced dust control measures shall be called out as notes on the project grading plan(s) and shall include the following:</p> <ul style="list-style-type: none"> <li>♦ Water all active construction areas at least twice daily.</li> <li>♦ Cover all haul trucks or maintain at least two feet of freeboard.</li> <li>♦ Pave or apply water four times daily to all unpaved parking or staging areas.</li> <li>♦ Sweep or wash any site access points within 30 minutes of any visible dirt deposition on any public roadway.</li> <li>♦ Cover or water twice daily any on-site stockpiles of debris, dirt or other dusty material.</li> <li>♦ Suspend all operations on any unpaved surface if winds exceed 25 mph.</li> <li>♦ Hydrosseed or otherwise stabilize any cleared area which is to remain inactive for more than 96 hours after clearing is completed.</li> </ul>	Less than Significant after Mitigation.
<b>CULTURAL RESOURCES</b> If Bella Lago developed prior to Rolling Hills Ranch Subarea III, the development area would be extended off-site, which would increase the potential for historical and archaeological resources to be encountered during grading activities.	Significant before Mitigation.	<p>Measure 4.6a A qualified archaeological monitor shall be on-site during initial grading in the mapped area of the two archeological structures that were recorded within the proposed development area. Figure 4.6-1, Area to be Monitored, identifies the area which requires monitoring (approximately 75 feet on each side of the existing dirt road, from the section line south to the southern project boundary).</p> <p>Measure 4.6b: If historic archaeological material is encountered during grading, all grading shall stop and its importance shall be evaluated, and suitable mitigation measures shall be developed and implemented, if necessary. Cultural material collected shall be permanently curated at an appropriate repository, such as the San Diego Archaeological Center.</p>	Less than Significant after Mitigation.

# EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p><b>TRAFFIC, CIRCULATION AND ACCESS</b></p> <p>The Bella Lago project would not result in significant direct traffic impacts; however, it would contribute to cumulative impacts on intersections. Specifically, significant cumulative impacts are expected at the intersections of East H Street/Proctor Valley Road/Mount Miguel Road and Proctor Valley Road/Lane Avenue, as described below.</p> <ul style="list-style-type: none"> <li>LOS F is calculated in the AM peak hour and LOS E in the PM peak hour at the East H Street/Proctor Valley Road/Mount Miguel Road intersection under Year 2005 Conditions without SR 125.</li> <li>LOS F is calculated in the AM and PM peak hours at the Proctor Valley Road/Lane Avenue intersection under Year 2005 Conditions without SR 125.</li> <li>LOS E is calculated in the PM peak hour at the Proctor Valley Road/Hunte Parkway intersection under Year 2005 Conditions without SR 125.</li> <li>A cumulative impact on the roadway segments of East H Street, Telegraph Canyon Road, and Olympic Parkway would occur if the Bella Lago project contributes to the construction of over 9,429 dwelling units within the Eastern Territories prior to completion of SR 125.</li> </ul>	Significant before Mitigation.	<p><b>Measure 4.7a</b> East H Street/Proctor Valley Road/Mount Miguel Road – Prior to the approval of the first final map for the project, the applicant shall contribute fairshare towards the construction and securing of a fully activated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaries at the East H Street/Proctor Valley Road/Mount Miguel Road intersection. The timing of installation and the design of the signal shall be to the satisfaction of the City Engineer.</p> <p><b>Measure 4.7b</b> Proctor Valley Road/Lane Avenue - Prior to the approval of the first final map for the project, the applicant shall contribute fairshare towards the construction and securing of a fully activated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaries at the Proctor Valley Road/Lane Avenue intersection. The timing of installation and the design of the signal shall be to the satisfaction of the City Engineer.</p> <p><b>Measure 4.7c</b> Proctor Valley Road/Hunte Parkway – Prior to the approval of the first final map for the project, the applicant shall contribute fairshare towards the construction and securing of a fully activated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaries at the East H Street/Proctor Valley Road/Mount Miguel Road/Hunte Parkway intersection. The timing of installation and the design of the signal shall be to the satisfaction of the City Engineer.</p> <p><b>Measure 4.7d</b> City GMOC Arterials – Prior to the construction of SR 125, the City shall stop issuing new building permits for Bella Lago, when the City, in its sole discretion, determines either:</p>	Less than Significant after Mitigation.

# EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
HYDROLOGY/DRAINAGE/WATER QUALITY Development of Bella Lago would impact the peak runoff of the project site.		<ol style="list-style-type: none"> <li>1. Building permits for a total of 9,429 dwelling units have been issued for projects east of I-805; or</li> <li>2. An alternative measure is selected by the City in accordance with the City of Chula Vista Growth Management Ordinance.</li> </ol> <p>The start date for counting the 9,429 dwelling units is January 1, 2000. Notwithstanding the foregoing, the City may issue building permits if the City decides in its sole discretion that either traffic studies demonstrate, to the satisfaction of the City Engineer, that the circulation system has additional capacity without exceeding the GMOC traffic threshold standards; other improvements are constructed which provide additional necessary capacity; or the City selects an alternative method of implementing the GMOC standards. These traffic studies would not require additional environmental review under CEQA. However, any improvements proposed in these traffic studies would be subject to additional environmental review as required.</p>	Less than Significant after Mitigation.
		<p>Measure 4.8a: Prior to approval of the Tentative Map, the developer of Bella Lago shall demonstrate that first flush flows will be diverted to detention/infiltration basins and treated prior to their discharge to existing drainage courses in accordance with the Urban Runoff Management Plan (see Appendix H).</p> <p>Measure 4.8b: Prior to issuance of each grading permit, a detailed drainage system design study shall be prepared in accordance with the City of Chula Vista's standards and shall be approved by the City Engineer.</p> <p>Measure 4.8c: Prior to issuance of each grading permit, the project proponent shall submit an NOI and obtain an NPDES Permit for Construction Activity from SWRCB. Adherence to all conditions of the General Permit for Construction Activity is required. The permit requires development of a SWPPP and a Monitoring Plan for all phases of project construction. The SWPPP shall be incorporated into the grading and drainage design plans and shall provide for implementation of construction and postconstruction BMPs on-site to reduce the amount of pollutants and sediments in construction and postconstruction surface runoff before it is discharged into the natural drainages. The grading plans will note the condition requiring a SWPPP and Monitoring Program Plan. No grading will be performed during the rainy season (October 1 through April 30) without special erosion control measures approved by RWQCB.</p>	

# EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>i. Short-term placement of sediment trapping facilities such as sand bags, matting, mulch, brush barriers, filters, berms, hay bales, silt fences, and/or sediment pools or other similar devices, along with all pertinent graded areas to minimize off-site sediment transport. Such facilities would likely be required for the base of manufactured slopes, as well as all areas adjacent to, or upstream of, major drainage courses and wetlands.</p> <p>ii. Hydroseeding of manufactured slopes following construction, together with provision of adequate water (through irrigation or truck watering) for an appropriate establishment period to be determined by the City Engineer.</p> <p>iii. Reclamation of all disturbed areas as soon as practicable after completion of grading.</p> <p>iv. Placement of temporary and/or permanent (if applicable) desilting basins, dikes, check dams, sediment basins, riprap, or other appropriate structures at applicable points upstream of all drainage courses and wetlands, or where substantial drainage alteration is proposed.</p> <p>v. Placement of energy dissipating structures (e.g., sediment basins, riprap aprons, water bars, or drop structures) at all storm drain, subdrain, and pipe outlets, as well as all drainage crossings, downstream outlets at all culverts and brow ditches, and applicable areas within drainage ditches or swales.</p> <p>vi. Use of subdrains in applicable areas to redirect subsurface flows.</p> <p>vii. Stabilization of construction vehicle and equipment access points by temporary paving, graveling, and/or use of sediment trapping devices to reduce the movement of sediment onto public roads and rights-of-way.</p> <p>viii. Restriction of grading during the rainy season, October 1 through April 30, unless related erosion and sedimentation control measures are implemented to the satisfaction of the City Engineer. Erosion and sedimentation control measures shall be in place a minimum of five days prior to any forecasted rain and shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>• Silt fencing shall be placed in all locations along the corridor where grading is higher than adjacent natural areas.</li> <li>• Silt fencing shall be maintained in a functioning condition until site preparation for the next phase of construction begins.</li> </ul>	



# EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p><b>GEOLOGY AND SOILS</b></p> <p>The project site is underlain by expansive soils, and portions of the site are within the Santiago Peak Formation and Fanglomerate Formation. Due to the swelling characteristics of expansive soils and the difficulty in excavating Santiago Peak Formation and Fanglomerate Formation materials, the project would result in potentially significant impacts associated with geology and soils that require mitigation.</p> <ul style="list-style-type: none"> <li>◆ Expansive soils may adversely impact structural slabs and foundations and roadways due to their swelling characteristics.</li> <li>◆ The adverse effects of slope creep or lateral fill extension may occur with expansive soil fills and cuts.</li> <li>◆ Underlying rock characteristics may impact excavation activities.</li> </ul> <p>Slope excavations could encounter adverse bedding planes or weakened shear planes, which would require some form of stabilization, such as facial buttresses.</p>		<ul style="list-style-type: none"> <li>• Sand bags will be used as necessary to ensure that the silt fence adequately maintains its integrity. A solid line of sand bags will be placed on the silt fence adjacent to any body of water or creek.</li> <li>• Construction fencing shall be placed along the corridor to keep vehicles and equipment from inadvertently entering natural areas.</li> <li>• Adequate liners will be used to eliminate the potential for soil migration which might be caused by precipitation from construction areas where there is bare soil.</li> </ul> <p>Measure 4.8g: Prior to the approval of the first final map, the applicant shall develop a funding mechanism to monitor downstream flows from the project and correct any erosion occurring down stream of the project to the satisfaction of the City Engineer.</p>	Less than Significant after Mitigation.
		<p>Measures 4.9a Prior to the issuance of each grading permit, a subsequent geotechnical investigation of the site shall be performed and appropriate mitigation measures to attenuate the adverse expansive soil characteristics identified. Mitigation measures may include the use of select grading to place the more highly expansive soils at greater depth within the fill; the use of post-tension slab foundation systems and elevated moisture conditioning of the subgrade; or a combination of the two measures.</p> <p>Measure 4.9b The geotechnical investigation shall include specific setback values and other recommendations for appurtenant structures near slopes to attenuate for the adverse effects of slope creep or lateral fill extension that can occur with expansive soil fills and cuts.</p> <p>Measure 4.9c A rippability investigation utilizing geophysical methods shall be conducted as part of the comprehensive geotechnical investigation program.</p> <p>Measure 4.9d The engineering geologist shall inspect the slope excavations to ensure that bedding planes or weakened shear planes are not encountered.</p> <p>Measure 4.9e Prior to the issuance of each grading permit, the applicant shall verify that the applicable recommendations of the geotechnical investigations prepared by Sheppardson, dated October 1, 2001, and Irvine Consulting Group, dated July 26, 1991, for the Bella Lago property have been incorporated into the project design and construction documents to the satisfaction of the City Engineer of the City of Chula Vista.</p>	

# EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p><b>PALEONTOLOGICAL RESOURCES</b></p> <p>Grading and excavation associated with future construction activities could uncover and affect unknown paleontological resources within the Otay and Santiago Peak Volcanic formations.</p>	Potentially Significant before Mitigation.	<p>Measure 4.10a</p> <ul style="list-style-type: none"> <li>◆ Prior to issuance of any on-site (or off-site) grading permits, the applicant shall confirm to the City of Chula Vista that a qualified paleontologist has been retained to carry out the following mitigation program. The paleontologist shall attend pregrade meetings to consult with grading and excavation contractors. (A qualified paleontologist is defined as an individual with an MS or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques.)</li> <li>◆ A paleontological monitor shall be on-site at all times during the original cutting of previously undisturbed sediments of highly sensitive geological formations (Otay and Santiago Peak Volcanics) to inspect cuts for contained fossils. The paleontological monitor shall work under the direction of a qualified paleontologist. The monitor shall periodically (every several weeks) inspect original cuts in deposits with an unknown resources sensitivity. (A qualified paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials.)</li> <li>◆ If fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In instances where recovery requires an extended salvage time, the paleontologist (or paleontological monitor), shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Where deemed appropriate by the paleontologist (or paleontological monitor). A screening operation for small fossil remains shall be set up.</li> <li>◆ Prepared fossils, along with copies of all pertinent field notes, photographs, and maps, shall be deposited (with the applicant's permission) in a scientific institution with paleontological collections such as the San Diego Natural History Museum. A final summary report shall be completed which outlines the results of the mitigation program. This report shall include discussion of the methods used, stratigraphy exposed, fossils collected, and significance or recovered fossils.</li> </ul>	Less than Significant after Mitigation.

# EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<b>UTILITIES AND PUBLIC SERVICES</b>			
<b>SEWER SERVICES:</b>			
<ul style="list-style-type: none"> <li>A significant sewer impact would occur if there was not sufficient capacity in the Rolling Hills Ranch on-site lift station and force main to accommodate the flows from Bella Lago, or if these facilities were not constructed at the time of development of Bella Lago.</li> </ul>	Potentially Significant before Mitigation.	<p>Measure 4.11a-1: Prior to approval of the first final map for the project, the developer of Bella Lago shall enter into a three party agreement with the City, and the developer of Rolling Hills Ranch for capacity in Rolling Hill Ranch's on-site lift station and force main. If the Rolling Hills Ranch project has not constructed the gravity sewer line, sewer lift station, and force main piping at the time the Bella Lago project is ready to develop, these facilities will become off-site improvements necessary to serve the project.</p>	
<ul style="list-style-type: none"> <li>If the Salt Creek Interceptor has not been completed at the time Bella Lago is ready to develop, Bella Lago must obtain capacity from an alternate lift station.</li> <li>A significant impact could occur to the Salt Creek Interceptor system if the fee was not paid.</li> </ul>		<p>Measure 4.11a-2: If the Salt Creek Interceptor has not been completed prior to the approval of the first final map for the project, the developer shall enter into a three party agreement with the City of Chula Vista and the Eastlake Company to acquire capacity rights at the Otay Lakes Road Pump Station and the Olympic Parkway Pump Station. Under this scenario, Bella Lago would also be required to pay the Pumped Flow Development Impact Fee.</p> <p>Measure 4.11a-3: The developer of Bella Lago shall construct all off-site and on-site sewer facilities identified in the <i>Overview of Sewer Service for the Bella Lago Project</i> and as required by the City Engineer to serve the project.</p> <p>Measure 4.11a-4: The developer of Bella Lago shall comply with the City Council Policy 570-03 for Pumped Sewer flows.</p> <p>Measure 4.11a-5: Prior to issuance of each Grading Permit, the developer of Bella Lago shall obtain City of San Diego Water Utility concurrence on all grading and improvement plans within the Otay Lake Drainage Basin, with the final decision at the discretion of the City of Chula Vista.</p> <p>Measure 4.11a-6: Prior to approval of the first final map for the project, the developer of Bella Lago shall create a post-construction BMP maintenance program acceptable to the City Engineer, the Regional Water Quality Control Board and the City of San Diego Water Utilities Department with perpetual funding for maintenance, with the final decision at the discretion of the City of Chula Vista.</p>	Less than Significant after Mitigation.

# EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p><b>WATER SERVICES:</b></p> <ul style="list-style-type: none"> <li>A significant impact could occur if water facilities to serve the project site are not constructed at the time the project is ready to develop.</li> </ul>		<p>Measure 4.11a-7: Prior to the recordation of the first final map for the project, the applicant shall demonstrate to the City Engineer that there is adequate capacity to handle projected sewage flows for the entire project.</p> <p>Measure 4.11a-8: Sewer facility improvements shall be financed or installed on- and off-site in accordance with City Council Policy 570-03.</p> <p>Measure 4.11a-9: The developer shall be responsible for constructing all sewer improvements from Rolling Hills Ranch to Bella Lago necessary to serve the project. The developer shall adequately provide sewer service without relying upon any proposed sewer construction phasing by other developments. The developer shall also underwrite the cost of all studies and reports needed to support the addition of sewer flows to existing lines.</p>	Less than Significant after Mitigation.
	Potentially Significant before Mitigation.	<p>Measure 4.11b-1: If the 980 Zone and 1296 Zone facilities within Rolling Hills Ranch are not constructed prior to approval of the first final map for the project, these facilities shall be required off-site improvements for the Bella Lago project.</p> <p>Measure 4.11b-2: Prior to the approval of the first final map for the project, the Developer of Bella Lago shall secure and agree with the Otay Water District to construct all potable water facilities (on and off-site) required for the 1296 pressure system, including:</p> <ul style="list-style-type: none"> <li>A Hydropneumatic pump station meeting City of Chula Vista Fire flow requirements.</li> <li>A looped 980 pressure system providing the hydropneumatic pump with more than one source of 980 zone flows.</li> </ul> <p>Measure 4.11b-3: Prior to approval of the Tentative Map for the project, the applicant shall provide the City with a letter from the OWD stating that adequate pumping and storage capacities are available or would be available concurrent with need.</p> <p>Measure 4.11b-4: Prior to approval of the first final map for the project, the applicant shall provide the City with a letter from the OWD stating that adequate storage capacity exists or would be available to serve the project.</p>	Less than Significant after Mitigation.

# EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p><b>FIRE AND EMERGENCY MEDICAL SERVICES:</b></p> <ul style="list-style-type: none"> <li>The proposed project would result in an incremental increase in the demand for fire and emergency response services.</li> </ul>	Potentially Significant before Mitigation.	<p>Measure 4.11b-5: A final Subarea Water Master Plan (SAMP) shall be approved prior to the approval of the Tentative Map for the project. The Master Plan shall include the design of water system infrastructure including timing and costs of development and must be in compliance with the OWD Master Plan. Water facilities improvements shall be financed or installed on- and off-site in accordance with the SAMP.</p>	Less than Significant after Mitigation.
<p><b>PARKS AND RECREATION:</b></p> <ul style="list-style-type: none"> <li>A potentially significant impact to recreational and park services could result without the contribution of impact fees to help finance the needed facilities and services.</li> </ul>	Potentially Significant before Mitigation.	<p>Measure 4.11d-1 Prior to approval of the first final map for the project, the developer shall pay impact fees for fire protection services to help finance the needed facilities and services.</p> <p>Measure 4.11d-2 The City will monitor Fire Department responses to emergency fire and medical calls and report the results to the GMOC on an annual basis.</p>	Less than Significant after Mitigation.
<p><b>SCHOOLS:</b></p> <ul style="list-style-type: none"> <li>The additional 58 elementary school age children would lead to the increased use of portable classrooms, the need for larger class sizes or the construction of new facilities to serve student population growth. Increased use of other educational facilities and the need for additional teachers and staff would also occur.</li> </ul>	Potentially Significant before Mitigation.	<p>Measure 4.11f-1: Prior to issuance of building permits, the project applicant shall pay school impact fees or participate in an alternative financing mechanism, such as a Community Facilities District, to help finance the needed facilities and services for the Chula Vista Elementary and the Sweetwater Union High School Districts prior to issuance of building permits to help finance the needed facilities and services to the satisfaction of the School Districts.</p>	Less than Significant after Mitigation.

# EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<ul style="list-style-type: none"> <li>The proposed 140 single-family residential units would generate approximately eight middle school-aged children and ten high school-aged children. The middle school planned for Rolling Hills Ranch and the Eastlake High School could accommodate the students generated by the project. If the project is developed prior to completion of the middle school planned for Rolling Hills Ranch, middle school students would attend Rancho Del Rey Middle School. In order to accommodate a student population that exceeds capacity, Rancho Del Rey Middle School could require increased use of portable classrooms and additional teachers.</li> </ul> <p>LIBRARY:</p> <ul style="list-style-type: none"> <li>Without the payment of impact fees, there would not be a potentially significant impact to library services. The Chula Vista Library system has enough book volume and library space to accommodate the additional persons generated by the proposed project that would use the libraries.</li> </ul>	Potentially Significant before Mitigation.	Measure 4.11g-1: The project applicant shall pay impact fees to help finance the library facilities, supplies, and services.	Less than Significant after Mitigation.
<p><b>PUBLIC HEALTH AND SAFETY</b></p> <p>No hazardous materials exist on the site. Future residents would not be exposed to hazardous materials and no significant impacts would result from implementation of the proposed project. A fuel modification zone plan has been prepared for the proposed project. The proposed project would adhere to this plan, which would minimize the exposure of people or property to significant fire hazards. No significant impacts would be anticipated.</p>	No significant impacts.	No mitigation measures required.	Impacts would not be significant.

TABLE ES-2

## ADDITIONAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES IF BELLA LAGO DEVELOPED PRIOR TO ROLLING HILLS RANCH SUBAREA III

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<b>BIOLOGICAL RESOURCES:</b>			
In addition to impact to biological resources within the Bella Lago property identified above, the Bella Lago project would impact coastal sage scrub, native grassland, disturbed grassland, wetlands, and wildlife species in the off-site area where access would be provided to serve Bella Lago.	Potentially Significant before Mitigation.	The following measure would be required if Bella Lago occurs prior to Rolling Hills Ranch Subarea III:  Measure 4.2c: Prior to issuance of grading permit for any portion of Subarea III, the developer shall prepare ASMDs and provide funding for their implementation.	Less than Significant after Mitigation.
<b>LANDFORM ALTERATIONS/AESTHETICS:</b>			
Construction of the roadways off-site would alter the natural landform and affect views of the project site and off-site area.	Potentially Significant before Mitigation.	The following measure would be required if Bella Lago occurs prior to Rolling Hills Ranch Subarea III:  Measure 4.3a: The grading plan shall incorporate landform grading sensitive to existing topography to the extent feasible and acceptable to the City Planning Department along major streets, such as those which would be required to serve Bella Lago. Techniques used to blend graded areas to natural landforms shall include slope rounding, obscuring slope drainage structures by massing plant materials, landform grading on large slope bands, and use of planting materials to control erosion.	Less than Significant after Mitigation.
<b>CULTURAL RESOURCES:</b>			
In addition to the potential impacts identified above, grading and excavation activities associated with construction of the roadways off-site could result in significant impacts to archaeological materials.	Potentially Significant before Mitigation.	The following mitigation is required to reduce potential impacts to below a level of significance, if development of Bella Lago occurs prior to development of Rolling Hills Ranch Subarea II.  Measure 4.6c: Prior to approval of first grading permit, the developer of Bella Lago shall review the locations of identified archaeological and historical sites within the Rolling Hills Ranch project boundary. If it is determined that an archaeological and/or historical site is within the area proposed for the roadways, then a qualified archaeological monitor shall be on-site during initial grading in the mapped area of the site(s).	Less than Significant after Mitigation.

## EXECUTIVE SUMMARY

Environmental Impacts	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
<p><b>TRAFFIC, CIRCULATION, AND ACCESS</b></p> <p>Access to Bella Lago is gained through Neighborhoods 10B and 11 of the Rolling Hills Ranch. In the event that Bella Lago is developed prior to development of the Rolling Hills Ranch, these access roads may not be built. In this scenario, the developer of Bella Lago will be required to construct these roads.</p>	Potentially Significant before Mitigation	<p>If Bella Lago developed prior to Subarea III of Rolling Hills Ranch, the project would be responsible for the Mitigation Measures 4.7a-4.7d identified in Table ES-1 above, as well as the following measures:</p> <p>Measure 4.7e Prior to the approval of the first final map, the applicant shall enter into an agreement with the City of Chula Vista to design, secure, and construct all access to the project from the existing portion of Proctor Valley Road to both access points of the project. The timing of the construction should be to the satisfaction of the City Engineer.</p> <p>Measure 4.7f The developer will implement transportation demand management strategies, including provisions of transit service and bus stops in order to reduce the peak hour demand on the street network.</p>	Less than Significant after Mitigation.



## CUMULATIVE IMPACTS

As discussed in Section 5.1, *Cumulative Impacts*, of this EIR, the development of Bella Lago in conjunction with other development projects within the Eastern Territories Planning Area could lead to significant environmental cumulative impacts when considered together with other projects causing related impacts in the City of Chula Vista, adjacent areas, and the region. The proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would have the potential to result in cumulative effects associated with biological resources, landform and aesthetics, traffic, and hydrology and water quality. However, the project incorporates measures which mitigate its incremental contribution to cumulative effects for biological resources, landform and aesthetics, traffic, and hydrology and water quality to below a level of significance.

## GROWTH INDUCING EFFECTS

Growth inducing effects can occur where the proposed project could foster economic or population growth either directly or indirectly in the surrounding environment. As discussed in Section 5.2, *Growth Inducement*, of this EIR, the proposed Bella Lago project would not encourage development of adjacent sites. Although the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would extend development within the Eastern Territories Planning Area, future extensions of development would be restricted by the identified Preserve areas which surround the project site to the north, east, and south. Development of the project would, however, require the extension of infrastructure, public services, utilities, and roadways to serve the project. These would be extended from the adjacent Rolling Hills Ranch project and made available commensurate with development and would not be considered growth inducing.

## SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

As identified in Section 5.3, *Significant Irreversible Environmental Changes*, of this EIR, construction of the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would result in significant irreversible environmental changes to biological resources, landform alteration and aesthetics, and nonrenewable energy and construction materials. Biological resources would be preserved as open space on approximately half of the project site in accordance with the City's Draft Multiple Species Conservation Program. Additional off-site mitigation would occur resulting in additional preservation of biological resources. However, biological resources would be lost where development occurs. Grading of the project site would permanently change the existing landform of the site and result in a change of the site's visual quality. The primary energy source would be fossil fuels representing an irreversible commitment of this resource. Similarly, construction materials, including cement, concrete, lumber, steel, etc., and labor, would also be irreversibly committed. This commitment of nonrenewable resources is not expected to be substantial.

## EFFECTS FOUND NOT TO BE SIGNIFICANT

CEQA requires a statement indicating the reasons that various possible significant effects of a proposed project were found to be less than significant. The preliminary analysis for the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project by the City of Chula determined that the project would result in environmental effects that were considered to be less than significant and were not further analyzed in this EIR. The proposed project would not have the potential to cause significant effects associated with the following issue areas: Agricultural Resources, Mineral Resources, and Population/Housing. Section 5.4, *Effects Found Not to be Significant*, of this EIR briefly discusses each of these issue areas and explains why

each was found not to result in the potential for significant environmental effects.

### PROJECT ALTERNATIVES

CEQA requires that an EIR describe a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain most of the basic project objectives, and to evaluate the comparative merits of the alternatives. Section 6.0, *Alternatives*, of this EIR discusses potential alternatives to the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project and evaluates potential environmental impacts, as required by CEQA. These alternative development scenarios have been developed in accordance with the CEQA Guidelines and are directed at addressing alternative projects which have the potential to reduce or avoid potentially significant impacts associated with implementation of the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project. The alternatives considered for the proposed project include the following:

- ◆ **No Project/No Development Alternative.** The No Project/No Development Alternative, as required by CEQA, infers that the project site would remain in its existing vacant condition, unaltered.
- ◆ **Development Under the R-1-5 Zone Alternative.** Under the Development Under the R-1-5 Zone alternative, residential units would be constructed in a cluster formation. Assuming 15 percent of the development area allotted to streets up internal slopes, development under this alternative would occur on approximately 20 acres, preserving 159 acres as open space. As with the currently proposed project, this alternative would require a zoning reclassification; however, the project site would be rezoned from Planned Community (P-C) to Single-Family Residential (R-1-5) with a Precise Plan (P) Modifying District. This alternative would also require a General Plan Amendment to redesignate the site from Residential Low (0-3 du per acre) to Residential Medium (6 to 11 du per acre). Under this alternative, 140 single-family homes would be developed similar to the proposed project. However, lot sizes would be reduced to 5,000 square feet.

### Environmentally Superior Alternative

CEQA requires that the EIR identify the environmentally superior alternative among all of the alternatives considered, including the proposed project. If the No Project Alternative is selected as environmentally superior, then the EIR shall also identify an environmentally superior alternative among the other alternatives.

Section 6.0, *Alternatives*, of this EIR indicates, through a comparison of potential impacts from each of the proposed alternatives and the proposed project, that the No Project/No Development Alternative would be the environmentally superior alternative because no impacts to the site would result. The Development Under the R-1-5 Zone Alternative could also be considered an environmentally superior alternative because development would occur on a smaller area (20 acres versus approximately 93 as proposed for the project) than the proposed project and impacts to landform alteration/aesthetics, biological resources, and hydrology would be less. However, the Development Under the R-1-5 Zone Alternative would not be consistent with land use designation and would not meet the project's objective of providing large lot, estate housing opportunities to area residents.

## ISSUES ADDRESSED IN LETTERS OF RESPONSE TO THE NOTICE OF PREPARATIONS (NOP)

The letters of responses to the NOP are located in Appendix A of this EIR. Issues raised by comments made in response to the NOP include the following:

The *San Diego County Archaeological Society* requested a copy of the Draft EIR, which will be sent to them. The *Native American Heritage Commission* sent a response outlining their concerns about cultural resources on the project site and concerns regarding the accidental discovery of human remains. Cultural Resource issues and mitigation is presented in Section 4.6, *Cultural Resources*, of this EIR.

### **1.1.2 Availability and Review of the Draft EIR**

An NOP, dated May 22, 2002, has been prepared for the project and distributed to all Responsible and Trustee Agencies, as well as other agencies and members of the public who may have an interest in the project. A copy of the NOP and letters received in response to the NOP are included in Appendix A of the Technical Appendices to this EIR. The NOP identified the potential for environmental impacts associated with the following issue areas: Land Use Planing and Zoning, Biological Resources, Landform Alteration/Aesthetics, Noise, Air Quality, Cultural Resources, Traffic/Circulation/Access, Hydrology/Drainage/Water Quality, Geology and Soils, Paleontological Resources, and Public Services and Utilities. A discussion of these issue areas is included in the EIR. Subsequent to release of the NOP, the City determined that Public Health and Safety, focusing on the potential for environmental impacts associated with electro-magnetic fields (EMF) and wildfires, should be addressed and is also included within this EIR.

The Technical Appendices are printed under separate cover as an accompaniment to this EIR. The appendices contain the various supporting documents used in preparing the EIR, including a Biological Resources Report (Appendix B), a Noise Impact Analysis (Appendix C), an Air Quality Impact Analysis (Appendix D), an Archaeological Resources Survey (Appendix E), a Traffic Impact Analysis (Appendix F), a Preliminary Drainage Study (Appendix G), an Urban Runoff Management Plan (Appendix H), a Geotechnical Feasibility Update (Appendix I), the Service Agency Letters (Appendix J), an Overview of Sewer Service (Appendix JK), an Overview of Water Service (Appendix KL), a Water Conservation Plan (Appendix LM), the Area Specific Management Directives (Appendix MN), and the Conceptual Fuel Zone Modification Plan (Appendix NO), ~~and the Service Provider Letters (Appendix O)~~.

Upon completion of the Draft EIR, a Notice of Completion is filed with the State Office of Planning and Research to inform the public and interested and affected agencies of the availability of the Draft EIR for review and comment. In addition, the Draft EIR is distributed directly to affected public agencies and to interested organizations for review and comment. The EIR and all related technical studies are available for review and copying at the offices of the City of Chula Vista, Planning and Building Department, Planning Division, located at 276 Fourth Avenue, Chula Vista, CA 91910.

Agencies, organizations, and individuals have been invited to comment on the information presented in the Draft EIR during a 45-day public review period. Specifically, comments addressing the scope and adequacy of the environmental analysis have been solicited. Respondents have also been asked to provide or identify additional environmental information that is germane to the project, but which they feel may not have been addressed in the analysis. Following the public review period, responses to all substantive public review comments are prepared and compiled into the Final EIR. The City of Chula Vista, prior to any decision on the project, will consider the Final EIR for certification.

## **1.2 SCOPE AND CONTENT OF EIR**

Based on an initial review of the project, the City of Chula Vista determined that the EIR for the proposed project should address the following environmental issues:

- ◆ Land Use Planing and Zoning;
- ◆ Biological Resources;
- ◆ Landform Alteration/Aesthetics;
- ◆ Noise;

- ◆ Air Quality;
- ◆ Cultural Resources;
- ◆ Traffic/Circulation/Access;
- ◆ Hydrology/Drainage/Water Quality;
- ◆ Geology and Soils;
- ◆ Paleontological Resources;
- ◆ Public Services and Utilities; and
- ◆ Public Health and Safety.

Under each issue area, the EIR includes a description of the existing conditions relevant to each environmental topic; presentation of threshold(s) of significance for the particular issue area under evaluation; an assessment of any impacts associated with implementation of the project; recommendations for mitigation measures, as appropriate, for each significant issue area; and a statement of the level of significance after mitigation for each area of impact. Cumulative impacts based on issues which were found to be potentially cumulatively significant, a brief discussion of the environmental effects of the project which were evaluated and found not to be potentially significant, as well as other mandatory CEQA discussion areas, are discussed under Section 5.0, *Other CEQA Mandated EIR Sections*. Section 6.0, *Alternatives*, discusses project alternatives which could avoid or reduce potentially significant environmental impacts associated with implementation of the project.

### 1.3 FORMAT OF EIR

The following format was used in preparation of the EIR for the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project:

- **Executive Summary.** An overview of the EIR, a description of the proposed project and a summary of impacts and mitigation measures are provided in this section. Areas of controversy, as well as any issues to be resolved, are also included.
- **Section 1: Introduction.** The purpose of the EIR and a discussion of the public review process are provided in this section. This section also includes the scope and format of the EIR.
- **Section 2: Environmental Setting.** This section provides a description of the project location and the environment of the project site, as well as the vicinity of the project site, as it exists before implementation of the proposed development project. A summary of the project's relationship to the City's Draft MSCP Subarea Plan is also included as part of the Environmental Setting.
- **Section 3: Project Description.** This section identifies the location of the proposed project and outlines the physical and operational characteristics of the project.
- **Section 4: Environmental Impact Analysis.** The existing environmental setting, potential environmental impacts, and recommended mitigation measures are discussed in this section. Unavoidable significant adverse impacts after mitigation are also identified. All access to Bella Lago is through the adjacent approved Rolling Hills Ranch project. Although development of Bella Lago is expected to follow development planned for Rolling Hills Ranch, the exact timing of each project is unknown. Therefore, two scenarios have been considered in the environmental analysis: 1) Development of Bella Lago after Development of Rolling Hills Ranch Subarea III, and 2) Development

of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III.

- **Section 5: Other CEQA Mandated EIR Sections.** *Cumulative Impacts* of the project are analyzed in this section through the evaluation of past, present, and reasonably anticipated future projects in the surrounding area, and the proposed project, which in combination may potentially contribute to significant cumulative impacts in the area. Also discussed is the project's *Growth Inducement* potential, which analyzes the potential for the project to foster economic or population growth in the adjacent areas or in the City as a result of the development of Bella Lago. This section also addresses potentially significant *Irreversible Environmental Changes* and any *Unavoidable Significant Impacts* that may be expected with the proposed project. The *Effects Found Not to be Significant* section identifies the issues where possible impacts were considered to not be potentially significant and describes the reasons why these possible significant environmental effects were deemed not to be significant.
- **Section 6: Alternatives.** Other development scenarios were developed as alternatives to the proposed project and are described in this section.
- **Section 7: Mitigation, Monitoring, and Reporting Program.** A mitigation, monitoring and reporting program is presented in this section, which lists the mitigation measures presented in Section 4.0 and identifies the time frame for implementation or verification and the party responsible for monitoring.
- **Section 8: References, Persons and Agencies Contacted and EIR Preparation.** A list of the reference materials consulted in the course of the EIR's preparation is included in this section, and agencies and individuals contacted during preparation of the EIR are identified. Persons and agencies responsible for the preparation of the EIR are also identified in this section.

## 1.4 INCORPORATION BY REFERENCE

As permitted by Section 15150 of the CEQA Guidelines, this EIR references several technical studies, analyses, and reports. Information from the documents, which has been incorporated by reference into this EIR, has been briefly summarized; the relationship between the incorporated part of the referenced document and this EIR is described. The documents and other sources which have been used in the preparation of this EIR are identified in Section 8.0, *References, Persons and Agencies Contacted and EIR Preparation*. In accordance with Section 15150(b) of the CEQA Guidelines, the location where the public may obtain and review these referenced documents and other sources used in the preparation of the EIR is also identified.

In accordance with Section 15153 of the CEQA Guidelines, this EIR uses the evaluation contained in the Salt Creek Ranch Annexation/General Development Plan/Pre-Zone Final and Supplemental EIRs (SCH #89092721) for evaluation of off-site roadways necessary for access to the project site. The analysis of off-site improvements under this scenario remains unchanged from that contained in the certified environmental documents for Rolling Hills Ranch (originally called Salt Creek Ranch). The proposed project relies on the development of roadways through Neighborhoods 10B and 11 of Subarea III of the approved Rolling Hills Ranch project. Subarea III is currently undeveloped. If Bella Lago develops prior to Subarea III, then the developer of Bella Lago must construct the off-site roadways through Rolling Hills Ranch, as described in this EIR. The Salt Creek Annexation General Plan/Pre-zone Final and Supplemental EIRs are on file and available for review at the City of Chula Vista, Planning and Building Department, 276 Fourth Avenue, Chula Vista, CA 91910.

## 1.5 EVALUATION OF ENVIRONMENTAL EFFECTS

The environmental analysis contained in this EIR has been developed to adequately address the environmental issues identified as needing further analysis and the concerns raised by comments on the NOP. Due to the project's reliance on proposed roads through Neighborhoods 10B and 11 of Rolling Hills Ranch for access to the site and the uncertainty of the timing for development of these neighborhoods, two scenarios have been considered in the environmental evaluation: 1) Development of Bella Lago After Development of Rolling Hills Ranch Subarea III, and 2) Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III.

The environmental impact analysis presented in Section 4 of this EIR seeks to determine the significance of potential impacts and to develop appropriate mitigation for impacts, which have been determined to be significant. In order to facilitate the analysis of each issue, a standard format was developed to analyze each issue thoroughly. This format is presented below, with a brief discussion of the information included within each topic.

### 1.5.1 Existing Conditions

This introductory discussion of each issue section describes the existing environmental conditions related to each issue analyzed in the EIR. In accordance with Section 15125 of the CEQA Guidelines, both the existing local and regional settings are discussed as appropriate and as they exist prior to implementation of the proposed project and during the preparation of this EIR. This section provides the baseline conditions with which environmental changes created by the project would be compared and analyzed. The existing environmental conditions section is the baseline setting for documenting the nature and extent of environmental changes or impacts anticipated to result from project implementation.

### 1.5.2 Threshold of Significance

In determining whether an impact is "significant," Section 15064.7 of the CEQA Guidelines encourages each public agency to develop and publish thresholds of significance to use in determining the significance of an environmental impact. These thresholds may consist of identifiable quantitative, qualitative or performance level criteria, of which non-compliance would mean the effect would be determined to be significant and compliance with the thresholds would mean the effect normally would be determined to be less than significant.

The City of Chula Vista has developed significance thresholds for certain environmental issue areas as part of the City's Growth Management Policy, which provide the basis for distinguishing between impacts which are determined to be significant (i.e., impact exceeds the threshold of significance) and those which are less than significant. This EIR uses the City's Thresholds of Significance, except in cases where none have been developed. In those cases, significance criteria used in the analysis in Section 4.0, *Environmental Impact Analysis* of this EIR are derived from the environmental concerns outlined in the Environmental Checklist, which is provided in Appendix G to the CEQA Guidelines. In some cases, thresholds adopted by other public agencies with jurisdiction over select environmental issues are used as thresholds of significance. Also, accepted technical and scientific data are used in other instances to determine if an impact would be considered significant. An effort has been made to avoid overly subjective significance criteria, which are not based on specific CEQA policies, and/or generally accepted thresholds upon which significance can be determined.

### **1.5.3 Impact Analysis**

The impact analysis presented in the EIR identifies specific project-related direct and indirect, short term and long term, and unavoidable and cumulative impacts. Section 15126.2 of the CEQA Guidelines requires that an EIR “identify and focus on the significant environmental effects of the proposed project.” “*Effects*” and “*impacts*” have the same meaning under CEQA and are used interchangeably within this EIR. A “*significant effect*” or “*significant impact*” on the environment means “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project” (Section 15382 of the CEQA Guidelines). With respect to each potential effect, an analysis has been conducted in the EIR to determine if:

- ◆ The project causes the identified “*effect*,” and
- ◆ The effect produces a substantial, or potentially substantial, change in the physical conditions within the area affected by the project (i.e., “*significant*”); and
- ◆ The changed conditions are “*adverse*.”

Where the investigation of a potential effect concludes that the effect is too speculative or subjective for evaluation, is beneficial, or is not significant or adverse, that conclusion is noted and the discussion of that effect is ended.

### **1.5.4 Level of Significance Before Mitigation**

The *Level of Significance Before Mitigation* subsection identifies whether or not the proposed project would result in an environmental impact without the implementation of mitigation measures.

### **1.5.5 Mitigation Measures**

This section identifies those mitigation measures which are required to reduce potential impacts to below a level of significance.

### **1.5.6 Level of Significance After Mitigation**

The *Level of Significance After Mitigation* subsection provides a brief conclusionary statement as to whether or not the effect would constitute a significant, unmitigatable environmental impact.

## **1.6 RESPONSIBLE AND TRUSTEE AGENCIES**

State law requires that all EIRs be reviewed by trustee and responsible agencies. A *Trustee Agency* is defined in Section 15386 of the State CEQA Guidelines as “a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California.” Per Section 15381 of the CEQA Guidelines, “the term ‘*Responsible Agency*’ includes all public agencies other than the Lead Agency which have discretionary approval power over the project.”



For the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project, sensitive habitat and sensitive plant and animal species would be directly affected by the project. Therefore, the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) may have an interest in the project. Previous negotiations between the property owner, City, CDFG and USFWS have achieved an agreement for the preservation of habitat on-site as well as off-site mitigation, which has resulted in Bella Lago being a "Covered Project" under Chula Vista's Draft MSCP Subarea Plan. A "Covered Project" is defined as a project within Chula Vista for which hard-line Preserve boundaries have been established and conservation in those designated areas shall be consistent with the project's plan and approvals. Nonetheless, CDFG and USFWS will review the EIR because sensitive habitat, plant or animal species may be directly affected by the project and potential indirect impacts to sensitive MSCP species may occur.

### **1.6.1 California Department of Fish and Game**

The CDFG has the authority to reach an agreement with an agency or private party proposing to affect intermittent or permanent wetland habitats, pursuant to Section 1603 of the State Fish and Game Code. The CDFG generally evaluates information gathered during preparation of the environmental documentation, and attempts to meet its permit concerns in these documents. The project could have a potential and significant impact to biological resources where a State threatened or endangered species occurs on a project site. CDFG would be responsible for the issuance of a Memorandum of Understanding to ensure the conservation, enhancement, protection, and restoration of State-listed threatened and endangered species and their habitats. Alternatively, if the Chula Vista MSCP Subarea Plan has been approved and the Incidental Take Permit (ITP) issued, the project may be evaluated under the City's MSCP Subarea Plan, and take of State endangered and threatened species covered by the Plan would be provided under the City's ITP.

### **1.6.2 U.S. Fish and Wildlife Service**

Acting under the Federal Endangered Species Act, the USFWS is responsible for ensuring that any action authorized, funded, or carried out by a federal agency is not likely to jeopardize the continued existence of listed species or modify their critical habitat. The USFWS may have an interest in the biological impacts associated with implementation of the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project. If the Chula Vista MSCP Subarea Plan has been approved and the ITP issued, the project may be evaluated under the City's MSCP Subarea Plan, and take of Federal endangered and threatened species covered by the Plan would be provided under the City's ITP.

## 2.0 ENVIRONMENTAL SETTING

### 2.1 PROJECT LOCATION AND REGIONAL SETTING

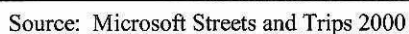
This EIR addresses the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project, located within the City of Chula Vista in southwestern San Diego County. The project site is located within the 23,700-acre Eastern Territories Planning Area, approximately 12 miles east of the Pacific Ocean and seven miles north of the United States – Mexico border (see Figure 2-1, *Regional Map*). The Eastern Territories Planning Area is bounded on the west by Interstate 805, on the north by San Miguel Mountain and State Route 54, on the east by the Jamul foothills, and on the south by the Otay River Valley (see Figure 2-2, *Eastern Territories Area*).

The Eastern Territories area was annexed in portions to the City of Chula Vista from the County of San Diego between 1989 and 1997. Mountains, low hills, steep slopes, canyons, watercourses and reservoirs characterize the Eastern Territories Planning Area. Mountains contained within the Eastern Territories include Mother Miguel Mountain, Rock Mountain, and Callahan Peak; and canyons include Wild Mans, Big Cedar, Little Cedar, Telegraph, Poggi, and Wolf Canyons. Also occurring within the Eastern Territories are Otay River, Proctor Valley Creek, and Salt Creek. Biological habitats and other environmentally sensitive lands are generally located along the canyons and valleys of the Eastern Territories Planning Area.

The Eastern Territories Planning Area is also characterized by residential, industrial and commercial land uses, as well as the Otay Landfill. Recent development of large, planned communities has increased housing opportunities within the planning area and has resulted in the development of commercial land uses. Industrial uses have also increased due to recent development. New development continues to occur within the Eastern Territories, and graded sites can be seen from some roadways throughout this area.

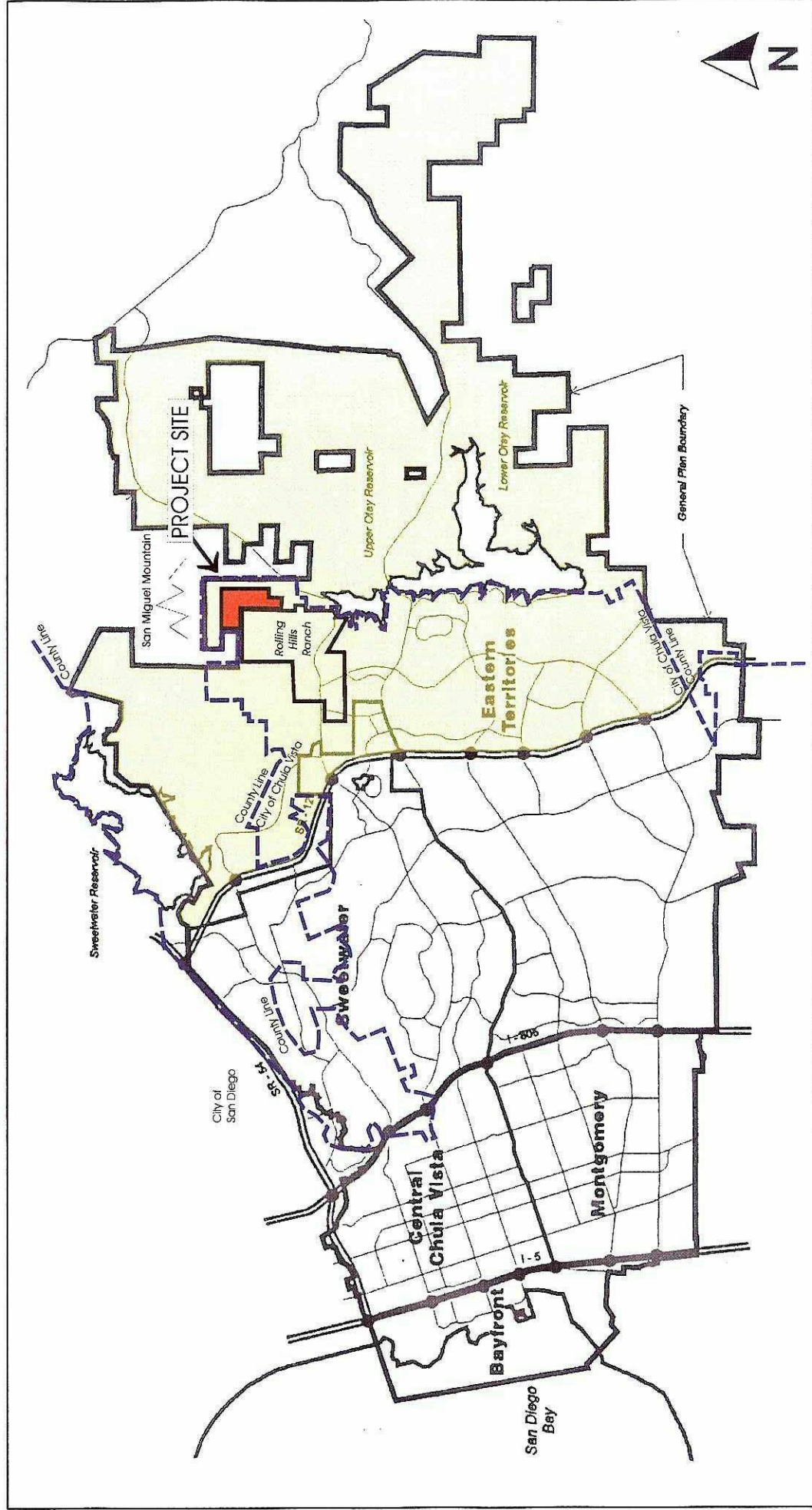
The Bella Lago project site lies at the northeasternmost portion of the Eastern Territories, immediately to the northeast of Rolling Hills Ranch, southeast of San Miguel Mountain, and northwest of the Upper Otay Reservoir (see Figure 2-3, *Location Map*). Preserve lands surround the project site on the north, east and south sides, while an approved residential community borders the project site on the west side.

If the approved residential community (Rolling Hills Ranch Subarea III) located west and south of the Bella Lago property has not been developed at the time Bella Lago would develop, then the developer of the Bella Lago project must construct the roadways through Subarea III which provide access to the Bella Lago property. Currently, this off-site area is undeveloped. It is located within the Eastern Territories, immediately west of the proposed Bella Lago project site, south of Bella Lago and San Miguel Mountain and northwest of the Upper Otay Reservoir. Rolling Hills Ranch Subarea II is located to the west of Subarea III. For a detailed description of the environmental setting within Rolling Hills Ranch, which was originally called Salt Creek Ranch, please refer to the Salt Creek Ranch Final and Supplemental EIRs (SCH #89092721). These documents are on file and available for review at the City of Chula Vista, Planning and Building Department, 276 Fourth Avenue, Chula Vista, CA 91910.



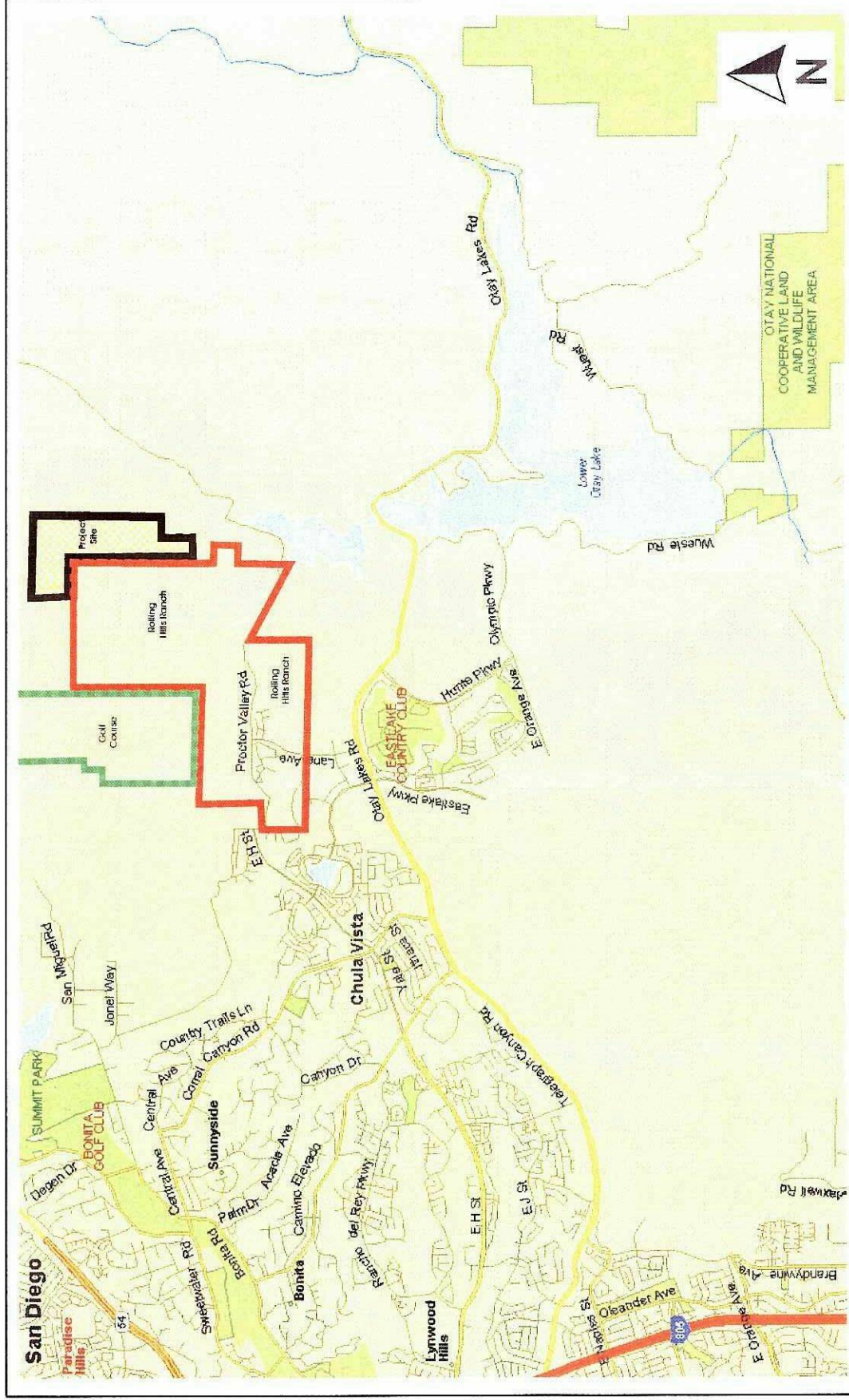
Page 2-2





Source: City of Chula Vista General Plan.

Figure 2-2  
Eastern Territories Area



Source: Microsoft Streets and Trips 2000



## 2.2 EXISTING SITE CONDITIONS

### 2.2.1 Natural Features

The approximately 180-acre project site has a varied topography consisting of rolling hills, broad vistas and natural areas (see Figure 2-4, *Existing Topography*). The majority of the site is comprised of gently sloping hills; however, steep slopes and designated sensitive biological habitat are also present on the site. An intermittent stream runs northeast to southwest in the northwestern portion of the project site. The ground slopes generally downward across the site, in a north to south direction, with site elevations ranging from approximately 1,170 feet above mean sea level (AMSL) in the northern portion of the site to approximately 670 feet AMSL at the southern end. There are unobstructed views of surrounding mountains and Upper Otay Lake to the east and south. Vegetation on the site consists of a variety of habitat species, including coastal sage scrub, native and non-native grasslands, and riparian communities, as well as sensitive plant species such as the Otay tarplant and variegated dudleya. Additionally, cultural resource sites have been identified on the project site within the area proposed for development and the proposed open space preserve area. No known active faults are located within the site.

### 2.2.2 Existing Uses

The project site is currently undeveloped. The only existing use within the project site is an SDG&E utility easement that traverses the southern portion of the site in an east-west direction. Overhead power lines are present within the easement. This easement, as well as undisturbed biological lands, would be preserved in three open space areas totaling approximately 86.5 acres. These open space areas would comprise a portion of the City's Preserve area as envisioned in the City's Draft MSCP Subarea Plan.

### 2.2.3 Surrounding Land Uses

The project site is bordered by open lands on all sides and has unobstructed views of distant mountains to the east and Upper Otay Lake to the south (see Figure 2-5, *Aerial Photograph*). The lands to the north, east and south of the site would be preserved as open space and are expected to remain unchanged from their present state. The land to the west of Bella Lago is designated as Neighborhoods 10B and 11 of the approved Rolling Hills Ranch development; however, no grading or development has occurred in this portion of Rolling Hills Ranch to-date. This land is approved for development with single-family residences. For a detailed description of the environmental setting of Rolling Hills Ranch (formerly called Salt Creek Ranch), please refer to the Salt Creek Ranch Final and Supplemental EIRs (SCH #89092721). These documents are on file and available for review at the City of Chula Vista, Planning and Building Department, 276 Fourth Floor, Chula Vista, CA 91910.

## 2.3 PLANNING CONTEXT

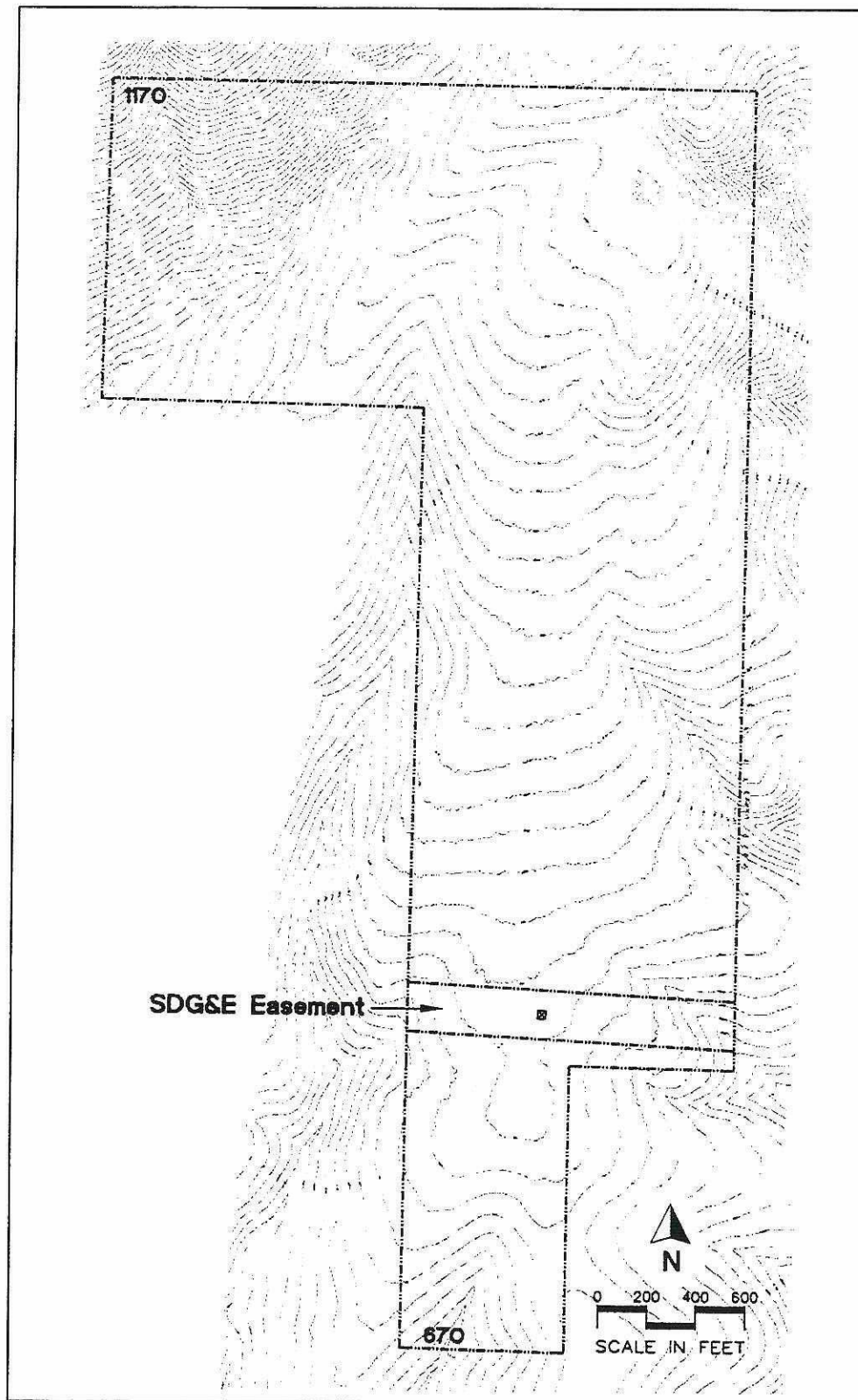
### 2.3.1 City of Chula Vista General Plan

The Chula Vista General Plan is a guiding document for the development of the City. The General Plan was last comprehensively updated in 1989 and amended in 1993 and 1995. The General Plan area spans approximately 44,470 acres and consists of the incorporated area of the City of Chula Vista, the existing sphere of influence, and additional unincorporated area. Figure 2-6, *General Plan Land Use Designations*, shows the project site and the General Plan designation for the project area.

The General Plan includes a series of elements that address specific aspects of the area's development. These are Land Use, Circulation, Public Facilities, Housing, Growth Management, Child Care, Conservation and Open Space, Parks and Recreation, Safety, and Noise. In addition, Chula Vista Area Plans are included, which address the issues and plans of five planning areas located within Chula Vista in greater detail. The proposed project is within the Eastern Territories Area Plan.

### **2.3.2 Zoning**

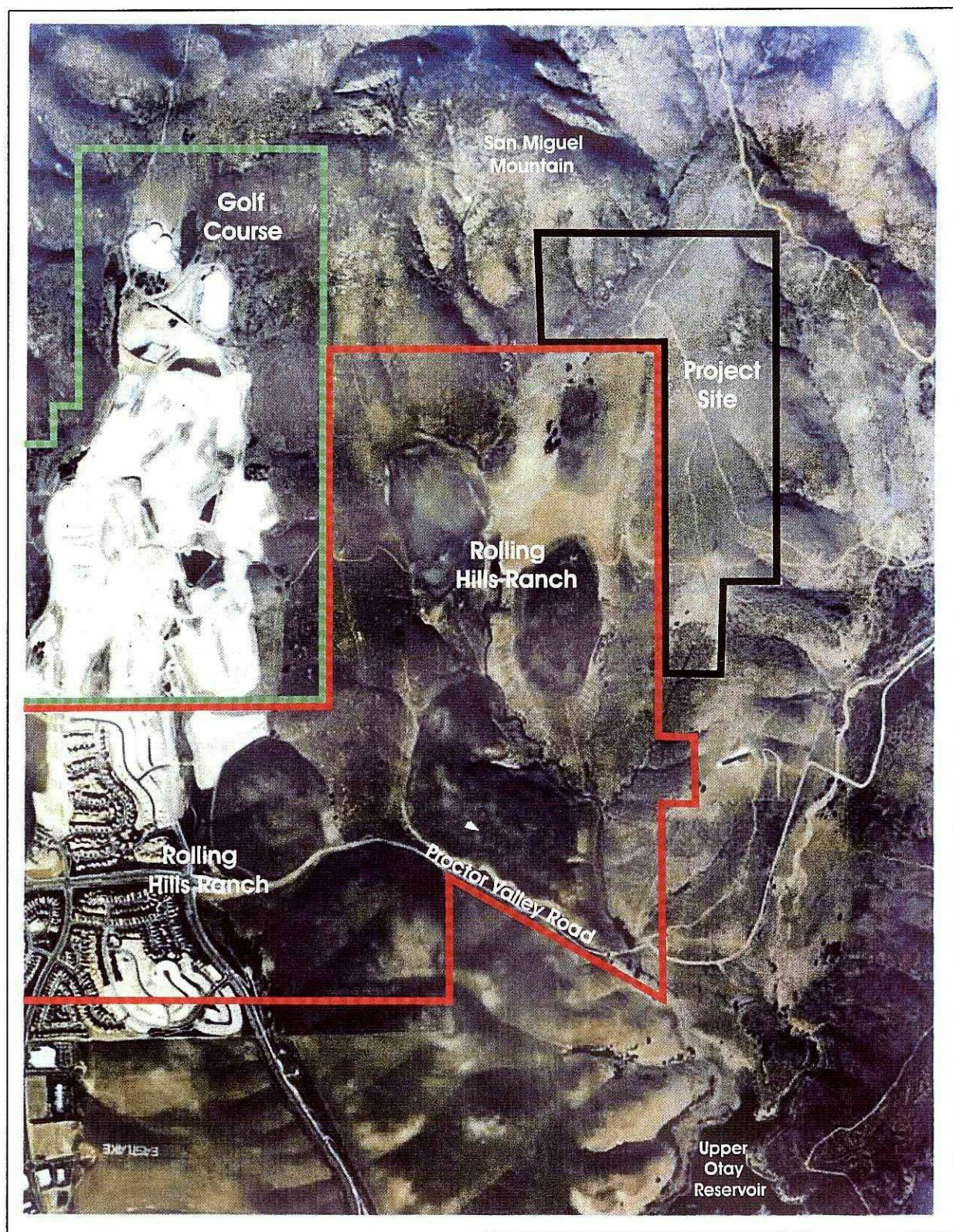
The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would rezone the site from Planned Community (P-C) to Residential Estate (R-E) with a Precise Plan (P) Modifying District. The R-E zone is a single-family residential zone that requires a minimum of 20,000 square foot lots. According to Section 19.22.010 of the City's Municipal Code, the purpose of the R-E zone is to "promote and preserve an open, rural environment on large parcels of land." The P Modifying District requires the preparation of a Precise Plan prior to development of an area. For the area comprising a P Modifying District, the guidelines contained within the Precise Plan shall take precedence over the otherwise applicable regulations of the underlying zone. According to Section 19.56.040 of the Municipal Code, the purpose of the P Modifying District is to "allow diversification in the spatial relationship of land uses, density, buildings, structures, landscaping and open spaces, as well as design review of architecture and signs through the adoption of specific conditions of approval for development of property in the city."



Source: Bella Lago Precise Plan, Estrada Land Planning

Figure 2-4  
Existing Topography

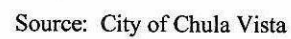




Source: Bella Lago Precise Plan, Estrada Land Planning

Figure 2-5  
Aerial Photograph





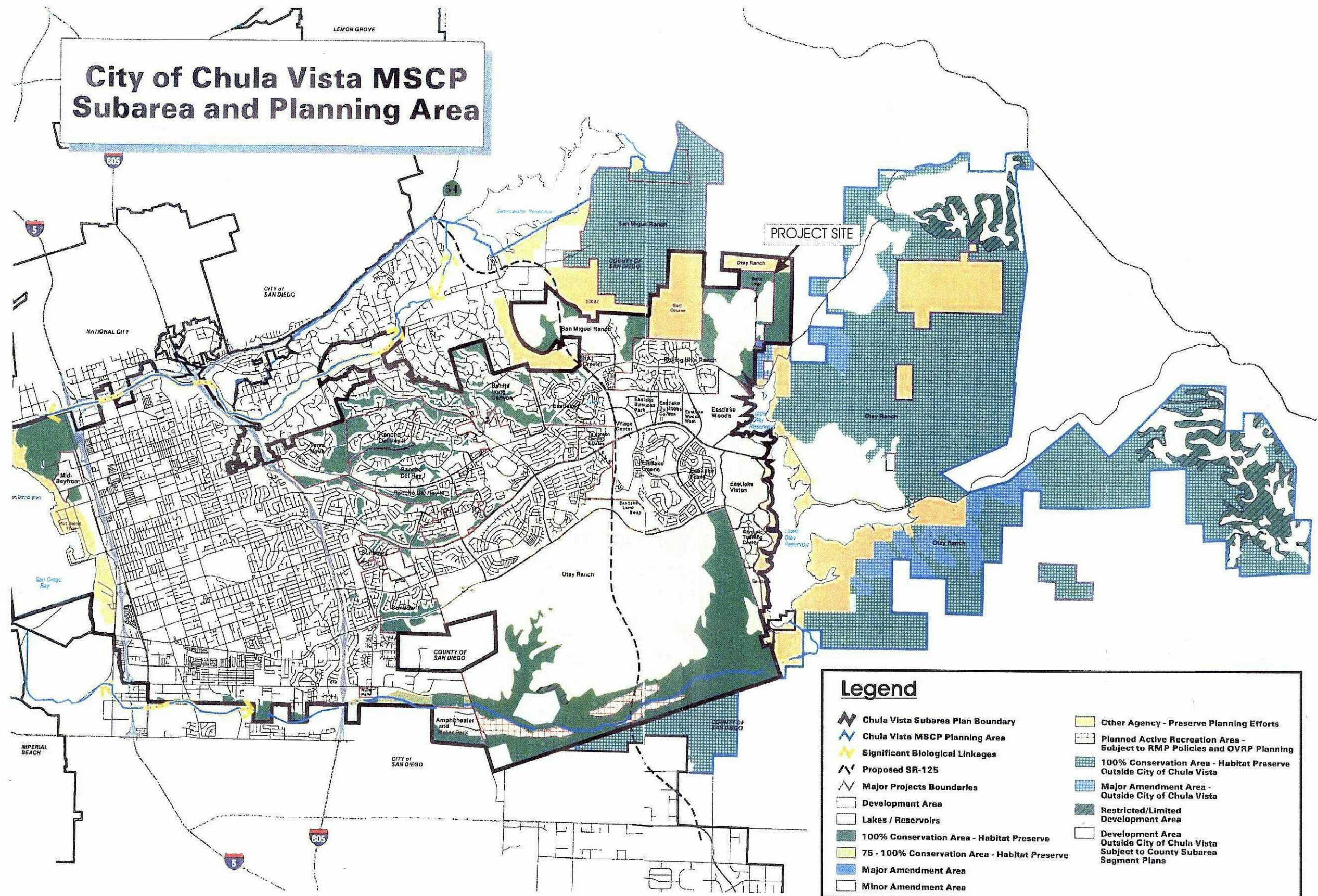


### **2.3.3 Chula Vista's Draft Multiple Species Conservation Program (MSCP) Subarea Plan**

The MSCP is a comprehensive planning effort that addresses the need to preserve significant biological resources while accommodating existing and future development within San Diego County. The primary goal of the MSCP is to conserve viable populations of sensitive species and to conserve regional biodiversity while allowing for reasonable economic growth. This has resulted in the identification of "core biological resource areas," also known as Preserve areas, which are large blocks of native habitat having the ability to support a diversity of plant and animal life.

The Chula Vista Draft MSCP Subarea Plan implements the MSCP within Chula Vista and has been prepared pursuant to the general outline developed by USFWS and CDFG. The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project is a "Covered Project" under the Chula Vista MSCP Subarea Plan due to agreements that have been reached between the property owner, City, and wildlife agencies. A "Covered Project" is defined as a project within the City of Chula Vista in which hard-line Preserve boundaries have been established and conservation in those designated areas shall be consistent with the project's plan and approvals. As a result of the agreements, approximately half of the project site (86.5 acres) will be conserved as natural open space Preserve lands; while project development would occur on the remaining 93.1 acres. In addition, the developer has agreed to purchase 2.5 acres of mitigation land off-site, bringing the total amount of conserved land to 89 acres. Figure 2-7, *Chula Vista MSCP Subarea Plan*, shows the project site in relation to the City's Draft MSCP Subarea Plan. The City of Chula Vista's Draft MSCP Subarea Plan is expected to be adopted in January 2003.





Source: City of Chula Vista MSCP Subarea Plan



## 3.0 PROJECT DESCRIPTION

This EIR analyzes the potential environmental impacts associated with the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project. The Bella Lago project proposes to develop very low-density residential land uses in the northeastern portion of the City of Chula Vista and would be developed pursuant to a Precise Plan. Approximately half of the site would be developed with large lot single-family estate homes, and the remainder of the site would be preserved as natural open space in accordance with the City's Draft MSCP Subarea Plan.

### 3.1 PROJECT BACKGROUND

The Bella Lago site was originally the homestead for the McCoy family and was farmed and grazed for many years. When Frank McCoy inherited the land from his mother in the early 1980's, he placed the site into a living trust. In 1988, the McCoy trust entered into a land development joint venture, and the property became a limited partnership known as Watson McCoy Ltd. Two years later, Frank McCoy died and the property passed in trust to his two sons. In 1997, the Bella Lago site was annexed into the City of Chula Vista as part of the Eastern Territories Planning Area, and in 1998 Bella Lago, LLC with Bellagio Capital, Inc. bought the interest of the McCoy trust in the property.

The original Bella Lago property, also referred to as the Watson-McCoy property, was approximately 161.6 acres. Two additional parcels, known as the Clarkson and Turner parcels, located adjacent to the southern boundary of the original Bella Lago property were subsequently added to the project site. Acquisition of the Clarkson and Turner parcels provided an additional 18.2 acres to the site, increasing it to its present area of approximately 180 acres. An application for approval of a Precise Plan, Rezone, and Tentative Map has been prepared and submitted to the City for the entire Bella Lago property.

Access to the Bella Lago property is dependent on roadways through the approved Rolling Hills Ranch Subarea III project (formerly called Salt Creek Ranch). Currently, Subarea III is undeveloped and no roadways exist through the site. If Bella Lago develops prior to the approved Rolling Hills Ranch Subarea III, then the developer of Bella Lago must construct the roadways through Rolling Hills Ranch for access to the project site. The environmental evaluation for Rolling Hills Ranch contained in the Salt Creek Ranch Annexation/General Development Plan/Pre-Zone Final and Supplemental EIRs (SCH #89092721) has been completed and approved. The analysis contained in those environmental documents remains unchanged and forms the basis of the environmental analysis for the off-site improvements required for Bella Lago. All applicable mitigation measures contained in the Rolling Hills Ranch environmental documents [i.e., Salt Creek Final and Supplemental EIRs (SCH #89092721)] associated with construction off-site improvements necessary to serve Bella Lago shall be implemented by the developer of Bella Lago, if development in Bella Lago occurs prior to development approved for Subarea III of Rolling Hills Ranch.

### 3.2 PROJECT OBJECTIVES

The objectives of the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project include the following:

- ◆ Implement the City's General Plan and facilitate the development of the vacant site by providing residential development and constructing public facilities;

- ◆ Add to the variety of housing types in Chula Vista by providing large lot, estate housing opportunities to area residents;
- ◆ Preserve important natural resources as open space elements of the project and comply with the Chula Vista Draft MSCP Subarea Plan;

### 3.3 PROJECT CHARACTERISTICS

The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project involves development of 140 single-family, low-density homes on 93.1 acres; the remaining 86.5 acres of the approximately 180-acre site would be preserved as open space. In addition, 2.5 acres of off-site mitigation lands would be purchased as part of the project. The project requires approval of a Precise Plan (PP), Rezone (RZ), and Tentative Tract Map (TM) and must comply with the City's Draft MSCP Subarea Plan. The City of Chula Vista would be the Lead Agency for considering the PP, RZ and TM and for certifying the environmental document. In addition, the project would require a Regional Water Quality Control Board NPDES Permit, Section 401 certification. The following is a detailed description of the project elements.

#### **3.3.1 Rezone**

The proposed project would require a zoning reclassification from Planned Community (P-C) to Residential Estate (R-E) with a Precise Plan (P) Modifying District. As required by the City of Chula Vista General Plan, the project proposes to develop the site as a low-density residential development. By rezoning the project site to R-E, the intended single-family, large lot character of the proposed project is clear, and the site's General Plan designation of Residential Low (0-3 du per acre) would be better implemented.

The R-E zone allows for the development of single-family detached dwelling units on minimum 20,000 square foot lots. The purpose of the R-E zone is to "promote and preserve an open, rural environment on large parcels of land."

The P Modifying District would require development of the site pursuant to a Precise Plan. Through adoption of a Precise Plan for Bella Lago, this zoning reclassification would provide the City with design and planning controls necessary to ensure that the project would meet or exceed planning expectations. The goal of the P Modifying District is to adopt specific conditions of approval for development in a specific area of the City that allow for the diversification in the spatial relationship of land use, as well as design review of architecture and signs. The guidelines contained within the Precise Plan take precedence over otherwise applicable regulations of the underlying zone.

#### **3.3.2 Bella Lago Precise Plan**

The Bella Lago Precise Plan establishes development regulations and standards for Bella Lago; refines and implements goals, objectives and policies of the City's General Plan; and establishes the planning design parameters for the site. The proposed Precise Plan encompasses the entire project site and includes a description of the development area; development statistics; a generalized map of land use locations; and individual development policies, requirements, and regulations. Design guidelines are also provided for architecture, landscaping, and fencing/walls.

The Bella Lago Precise Plan is divided into six chapters: Introduction, Development Plan, Development Requirements, Development Regulations, Design Guidelines – SF-1 and SF-2, and Administrative

Procedures. The main chapters are discussed in detail below.

## **Development Plan**

The Development Plan chapter is comprised of three subsections: Development Plan, Circulation, and Grading. These subsections are described below.

### Development Plan

The development plan subsection describes the proposed land use for Bella Lago. The plan is influenced by local and regional elements, its biologically sensitive areas, and the goal of preserving a significant amount of land for open space.

The proposed Precise Plan would allow the Bella Lago site to develop over half (93.1 acres) of the approximately 180-acre site with large-lot residential development at a density of 0.5-3 du per acre. A total of 140 lots are proposed in two residential planning areas (see Figure 3-1, *Proposed Site Plan*). Average lot size would be 23,413 square feet, with an average pad size of 16,143 square feet. Build-out of Bella Lago is planned to occur in two phases over a period of approximately three to four years.

The remainder of the site (86.5 acres) and 2.5 acres off-site would be set aside as natural open space in accordance with the City's Draft MSCP Subarea Plan. Two natural open space areas and one natural open space utility easement are proposed.

### Circulation

Existing and planned roadways would serve as the off-site circulation system for Bella Lago. Regional access would be provided by I-805, located west of the project site, and the future SR 125, located north of the project site. Local off-site streets include East H Street, Proctor Valley Road, Otay Lakes Road, Lane Avenue, and Hunte Parkway.

Access to the project site would be provided on the west side through Neighborhoods 10B and 11 of the adjacent Rolling Hills Ranch development. Primary access to the site would be provided by Via Maggiore, which runs through Neighborhood 10B. Ponte Tresa, which connects through Neighborhood 11, would provide an alternate access route. The other proposed streets within the project area would serve the residences of Bella Lago. Parking and bicycle travel would be allowed on both sides of the streets. The streets would be 32 feet wide with a right-of-way width of 58 feet. Five-foot wide sidewalks would occur on both sides of the street and would be separated from the travel lanes by eight-foot parkways. All streets would be constructed concurrent with project development. The other proposed streets within the project area would serve the residences of Bella Lago.





### Grading

Grading for the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project has been designed to preserve the steep slopes and natural drainage areas within the project site. Homes would terrace up hillsides, following existing contours, to take advantage of views to the south and east. Grading of the project site would occur in one phase. Earthwork for the project would require approximately 600,000 cubic yards of cut and fill, balanced on-site.

### **Development Requirements**

The Development Requirements chapter addresses how the project would meet the requirements of the Housing and Park and Recreation Elements of the City's General Plan, as well as the necessary public facilities. The on- and off-site public facilities addressed in this section include: potable water supply, recycled water, sewer service, storm and drainage system, urban run-off, schools, police and fire services, and library services. Phasing of the project is also addressed.

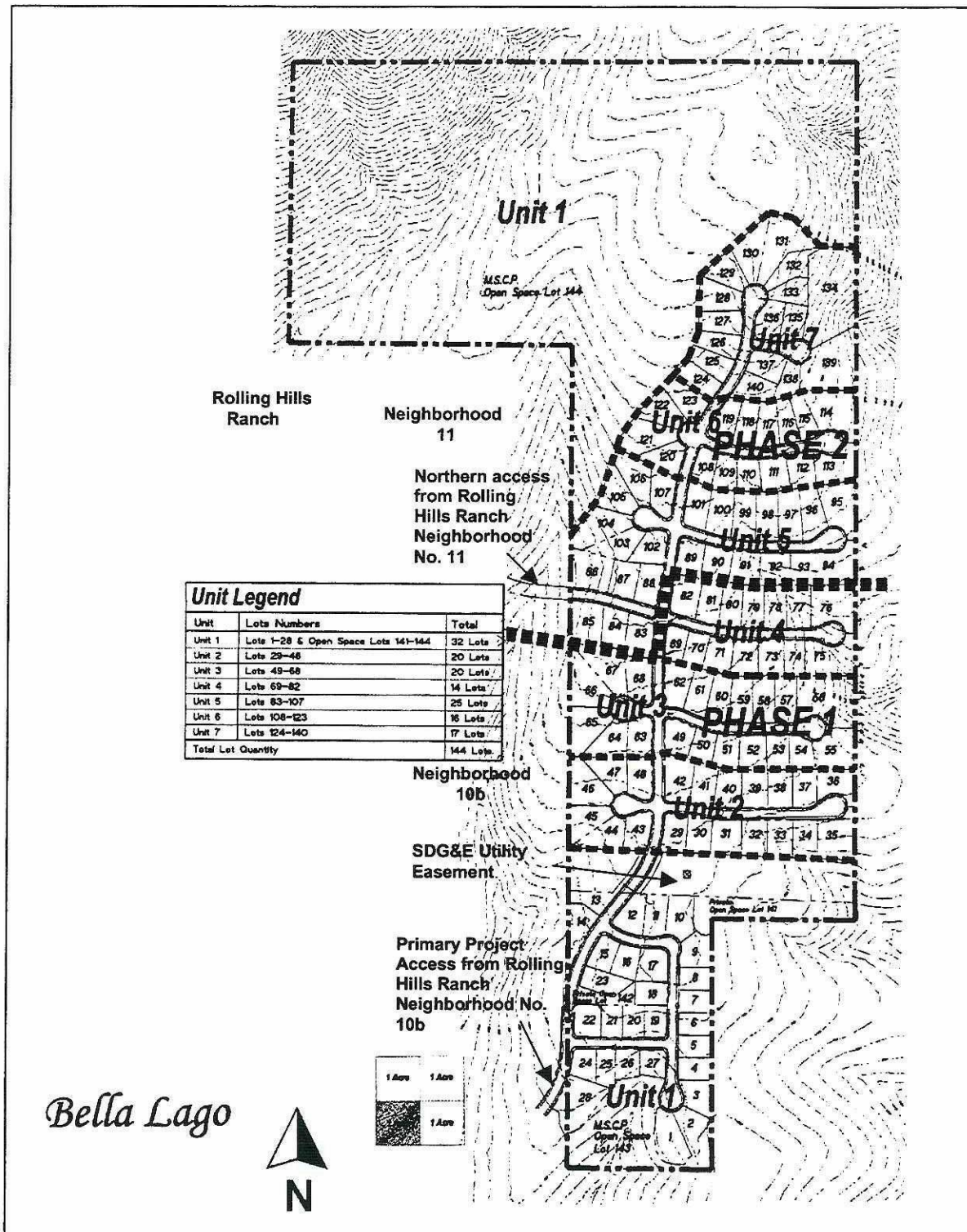
The proposed project has been divided into two phases for development (see Figure 3-2, *Project Phasing*). It is assumed that the proposed project would develop over a period of three to four years. The earlier phases would begin in the southern portion of the property, and development of the site would continue to occur in a northerly direction until build out. The three open space lots would be dedicated at the time of recordation of the first Final Map.

### **Development Regulations**

The Development Regulations chapter of the Precise Plan sets forth the development regulations for both the residential and open space areas within the Bella Lago project site. The residential estates would be developed with minimum 15,000 square foot lots, a maximum lot coverage of 40 percent, minimum 25-foot front yard setbacks, minimum 20-foot rear yard setbacks, 10- to 15-foot side yard setbacks, a 50-foot Fuel Modification Zone setback, and a maximum building height of 2 ½ stories or 28 feet. Both attached and detached accessory structures are allowed. In addition, specific fence and wall guidelines are provided.

A total of 89 acres (86.5 acres on-site and 2.5 acres off-site) would be dedicated as open space. The open space areas are designated as the Open Space (OS) District. The Open Space District would be consistent with the City's General Plan and would become part of the City's MSCP Preserve. The OS District is intended for natural open space, habitat preservation, and limited public uses. Uses allowed within the OS District are those described as compatible and conditionally compatible uses in the City's Draft MSCP Subarea Plan. In addition, utilities, access to utility facilities, brush management in the utility easement, and the placement/burial of rocks within the utility easement is proposed. Although not proposed by the project, public trails and informational kiosks may be located within the OS District. However, to avoid impacts to sensitive plant species, public access into the Clarkson-Turner parcel will be restricted. Development standards and management measures for the OS District are addressed through the Area Specific Management Directives that have been developed for the project (see Appendix N to this EIR).

Fuel treatments for the Bella Lago project are also addressed in this section and are based on a Conceptual Fuel Modification Zone Plan (CFMZP), which has been approved by the Chula Vista Fire Department (see Appendix O to this EIR). The CFMZP provides fuel modification zone treatment direction for making all proposed structures within the project area safe from future wildland wildfires, which include:



Source: Bella Lago Precise Plan, Estrada Land Planning

Figure 3-2  
Project Phasing



- ◆ A wildland fire hazard rating assessment and expected fire behavior of off-site and on-site native vegetative fuels;
- ◆ A 50-foot wide irrigated low fuel volume buffer strip along the project perimeter that separates the native open space vegetation within the MSCP Preserve area from the private yard. No trees would be allowed in this buffer strip, and all shrubs would be maintained to less than 18 inches in height; and
- ◆ Special "Fire Protection Features" for structures on designated lots.

The CFMZP for Bella Lago is included in the Precise Plan. The Bella Lago CFMZP was developed in conjunction with the City of Chula Vista Planning and Building Department and the City of Chula Vista Fire Department to ensure the direction provided for fuel modification treatment within Bella Lago would make all proposed structures safe from future wildland wildfires. The fuel modification zone treatment direction identified in the Bella Lago Precise Plan is based upon the approved Bella Lago CFMZP (see Appendix N).

### Design Guidelines

The Design Guidelines chapter provides guidelines for architecture, landscape architecture, and community fencing and walls within the Bella Lago project area. The Architectural Guidelines focus on design characteristics rather than detailed architecture requirements to encourage individual styles within the Bella Lago development and provide building flexibility. The Landscape Architectural Guidelines would focus on the natural features of the project site and the scenic vistas of the Otay Reservoir, Mexico and the Pacific Ocean. In addition, a Fuel Modification Plan list is provided. The Fuel Modification Plan reflects the CFMZP. Community fencing and walls design guidelines are provided to unify the Bella Lago community.

### Administrative Procedures

The Administrative Procedures chapter defines the procedures and requirements with which the construction plan and building permit approval processes need to comply. The Precise Plan would take precedence over any conflicting standard, and the provisions of Title 19 CVMC shall be complied with for areas not addressed within the Precise Plan. The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would be subject to approval by the Chula Vista Planning Commission and City Council. No further appeal of the project is provided within the City's administrative framework.

#### **3.3.3 Tentative Tract Map (TM)**

The concurrent processing of a TM is proposed for the project site. The TM would establish infrastructure requirements that would enable the preparation of an application for Design Review. There are 140 residential lots and four open space lots proposed for the project. Lots range in size from 15,008 square feet to 97,549 square feet. The average residential lot size is 23,413 square feet with an average pad size of 16,143 square feet.

### 3.4 DISCRETIONARY ACTIONS

A discretionary action is an action taken by an agency that calls for the exercise of judgement in deciding whether to approve or how to carry out a project. The following discretionary actions associated with the proposed project would be considered by the Chula Vista Planning Commission and City Council.

- ◆ Precise Plan
- ◆ Zone Change
- ◆ Tentative Tract Map

In addition, the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would require the following permits from other agencies:

- ◆ Regional Water Quality Control Board NPDES Permit
- ◆ 401 Certification

## 4.0 ENVIRONMENTAL IMPACT ANALYSIS

The following sections analyze the potential environmental impacts that may occur as a result of project implementation. Issue areas subject to detailed analysis include those that were identified by the City of Chula Vista as potentially causing significant environmental impacts and issues, which were identified in response to the Notice of Preparation (NOP) as having potentially significant impacts. The NOP is included in Appendix A of this EIR. The following environmental issues are addressed in this EIR:

- ◆ Land Use, Planning and Zoning;
- ◆ Biological Resources;
- ◆ Landform Alteration/Aesthetics;
- ◆ Noise;
- ◆ Air Quality;
- ◆ Cultural Resources;
- ◆ Transportation, Circulation and Access;
- ◆ Hydrology/Drainage/Water Quality;
- ◆ Geology and Soils;
- ◆ Paleontological Resources;
- ◆ Utilities and Public Services; and
- ◆ Public Health and Safety.



## 4.1 LAND USE, PLANNING AND ZONING

The analysis in this section would be the same under the Development of Bella Lago After Development of Rolling Hills Ranch Subarea III and the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenarios.

### 4.1.1 Existing Conditions

#### **Existing Site Conditions and Surrounding Land Uses**

The *Bella Lago Precise Plan, Rezone and Tentative Tract Map* project site is located in the northeastern most reaches of the Eastern Territories Planning Area in the City of Chula Vista (see Figure 2-2). The site is located immediately northeast of Rolling Hills Ranch, southeast of San Miguel Mountain, and northwest of the Upper Otay Reservoir.

As shown in Figure 2-5, *Aerial Photograph*, the 180-acre project site is currently undeveloped. Large, estate residential uses would be developed on approximately half of the project site (93.1 acres) as a result of the project; the other half of the project site (86.5 acres) would be preserved as open space preserve areas, consistent with the City's Draft MSCP Subarea Plan. The portion of the site to be developed with residential uses is characterized by gently sloping topography that does not exceed 15 percent. Steeper slopes and the presence of designated biological habitat characterize the portions of the site to be preserved as open space. In addition, an SDG&E utility easement is located in the southern portion of the site (see Figure 3-2).

Neighborhoods 10B and 11 of the Rolling Hills Ranch development are located immediately southwest of the project site. Neighborhoods 10B and 11 are approved for the construction of single family detached residential units, although this area is currently undeveloped. The north, east, and south sides of the project site are surrounded by lands proposed as Preserve lands in the City's Draft MSCP Subarea Plan or County's MSCP Subarea Plan, and are expected to remain as open space areas under the MSCP.

#### **Relevant Plans and Policies**

##### City of Chula Vista General Plan

Development within the City of Chula Vista, including the project site, is regulated by the City's General Plan. The General Plan was originally adopted July 1989 and was updated September 1995. A total of ten elements, which address specific aspects of the City's development, make up the General Plan including: land use, circulation, public facilities, housing, growth management, child care, open space and conservation, parks and recreation, safety, and noise. These elements are grouped into three main categories – Community Development, Environmental Resources Management, and Hazard Management – which reflect specific aspects of development policies. Specifically relevant to the proposed project are the Land Use, Public Facilities, Housing, Growth Management, Conservation and Open Space, Safety, and Noise Elements, and the Eastern Territories Area Plan, as presented below.

The General Plan also contains area plans for the five planning areas within Chula Vista: Central Chula Vista, Bayfront, Montgomery, Sweetwater, and Eastern Territories. As previously stated, the project site is located within the Eastern Territories Planning Area. According to the General Plan, the majority of new urban growth within Chula Vista is expected to occur in the Eastern Territories Planning Area. In addition,

this area contains some of the most valuable environmental and visual resources of the General Plan area. The Eastern Territories Area Plan contains goals, policies and objectives for the Eastern Territories, which are intended to be implemented in conjunction with all of the other elements of the General Plan.

### *Land Use*

The Land Use Element establishes a guide for the long-term development and use of all lands within the General Plan planning area. There are 15 land use categories included in this element, each with specific guidance for determining which land uses should be permitted. Goals and objectives applicable to the entire General Plan area are also presented; however, specific goals and objectives for the five planning areas of Chula Vista are contained within each Specific Area Plan.

New development must meet a specific character, as defined by the site's land use designation. The Bella Lago site has a General Plan designation of Residential Low (0-3 du per acre). The character for "Residential Low" development is defined as follows:

*"This category includes single-family detached dwellings on large rural, and estate-type lots. This is the predominant character of existing residential neighborhoods within and adjacent to Sweetwater Valley. This is also the appropriate residential land use for areas with variable terrain of relatively steep slopes and the areas adjacent to the proposed Greenbelt."*

Bella Lago is adjacent to the Chula Vista Greenbelt, as defined in the General Plan.

### *Public Facilities*

The Public Facilities Element addresses the facilities and services controlled by the City or provided as obligatory services by other public agencies and which are not addressed in other elements of the General Plan. These facilities include water, wastewater, drainage and flood control, solid and hazardous waste, schools, and library facilities. Proper water management and conservation, the expansion of the City of San Diego Metropolitan Sewage System, and solid waste disposal are identified as major issues facing public facilities.

### *Housing*

The Housing Element identifies the housing needs for Chula Vista and the response necessary to fulfill them. This element is a State required component of the General Plan and was last updated in 1991. The update is divided into three parts: Review of the Housing Element of 1986; Needs, Resources, and Constraints; and, Comprehensive Housing Plan – 1991 to 1996. Relevant to the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project is the goal to accomplish "the overall increase of the housing stock through provision of decent housing in well-planned neighborhoods for families and individuals of all socioeconomic levels."

### *Growth Management*

The Growth Management Element represents the guide to accomplishing the overall vision for Chula Vista set forth in the Introduction of the General Plan. This element provides a conceptual framework for the comprehensive management of growth for the City, which will ensure adequate public facilities and services

meet the public's needs as the City develops. The goal of the Growth Management Element is to "direct and coordinate growth and development policies in ways that not just maintain, but consistently endeavor to improve, the quality of life for current and future residents of Chula Vista." This goal is implemented through the City's adopted threshold standards.

### *Conservation and Open Space*

The Conservation and Open Space Element identifies preservation and enhancement of the natural environment for the General Plan area. Open space is used to preserve natural resources, create visual relief in the urban structure, and to set aside areas that have potential exposure to hazards or noise impacts. Relevant to the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project are the goals to preserve natural resources by incorporation into the open space system and to develop a system of open space corridors.

### *Safety Element*

The purpose of the Safety Element is to establish a long-range, comprehensive, and general policy which will provide direction, continuity, order, and substance to existing and future safety programs. The primary goal of this element is for protection from fires, flooding and geologic hazards. The standards established for Fire Safety state that "75% of all dwelling unit responses should be within a 5 minute response time and 95% within a 7 minute response time." Other safety policies include the establishment and maintenance of evacuation routes, and the promotion of public safety from geologic hazards.

### *Noise Element*

The Noise Element is a State required element of the General Plan. The purpose of this element is to identify existing conditions and to provide general guidelines to reduce the negative impact of noise on the community in the future. Various sources of noise and techniques to abate the associated noise have been identified by the City of Chula Vista and are discussed in this element.

### *Eastern Territories Area Plan*

As previously stated, the project site is located within the Eastern Territories Area Plan, one of five area plans in the City. The Eastern Territories Area Plan is contained in Chapter 14 of the City's General Plan and is intended to be used in conjunction with the other sections of the General Plan. It is divided into seven sections, including Introduction; Existing Setting; Forecast and Proposed Change; Goals and Objectives; Area Land Use Diagram; Planning and Design Proposals; and References. Relevant to the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project are the Area Plan's goals for natural environment and new urban development, as summarized below:

- ◆ Protect the most important environmental resources from urban development and its potential, negative impacts; and
- ◆ Accommodate and regulate such development in ways that will protect the significant natural environment and create high quality urban environments for living and working.



## Zoning

The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would rezone the site from Planned Community (P-C) to Residential Estate (R-E) with a Precise Plan (P) Modifying District. Figure 4.1-1, *Zoning Map*, shows the existing zoning of the proposed site. According to Section 19.22.010 of the Chula Vista Municipal Code, the purpose of the R-E zone is to “promote and preserve an open, rural environment on large parcels of land.” As defined in Chapter 19 of the Chula Vista Municipal Code, *Zoning and Specific Plans*, the R-E zoning designation requires a minimum lot size of 20,000 square feet. Single-family detached dwelling units and crop and tree farming are permitted uses within the R-E zone. Conditional uses allowed within the R-E zone include public and private noncommercial recreation areas and facilities, electric substations and gas regulators, unclassified uses, and dwelling groups.

According to Section 19.56.040 of the Chula Vista Municipal Code, the purpose of the P Modifying District is to “allow diversification in the spatial relationship of land uses, density, buildings, structures, landscaping and open spaces, as well as design review of architecture and signs through the adoption of specific conditions of approval for development of property in the city.” For the area comprising a P Modifying District, the guidelines contained within the precise plan shall take precedence over the otherwise applicable regulations of the underlying zone.

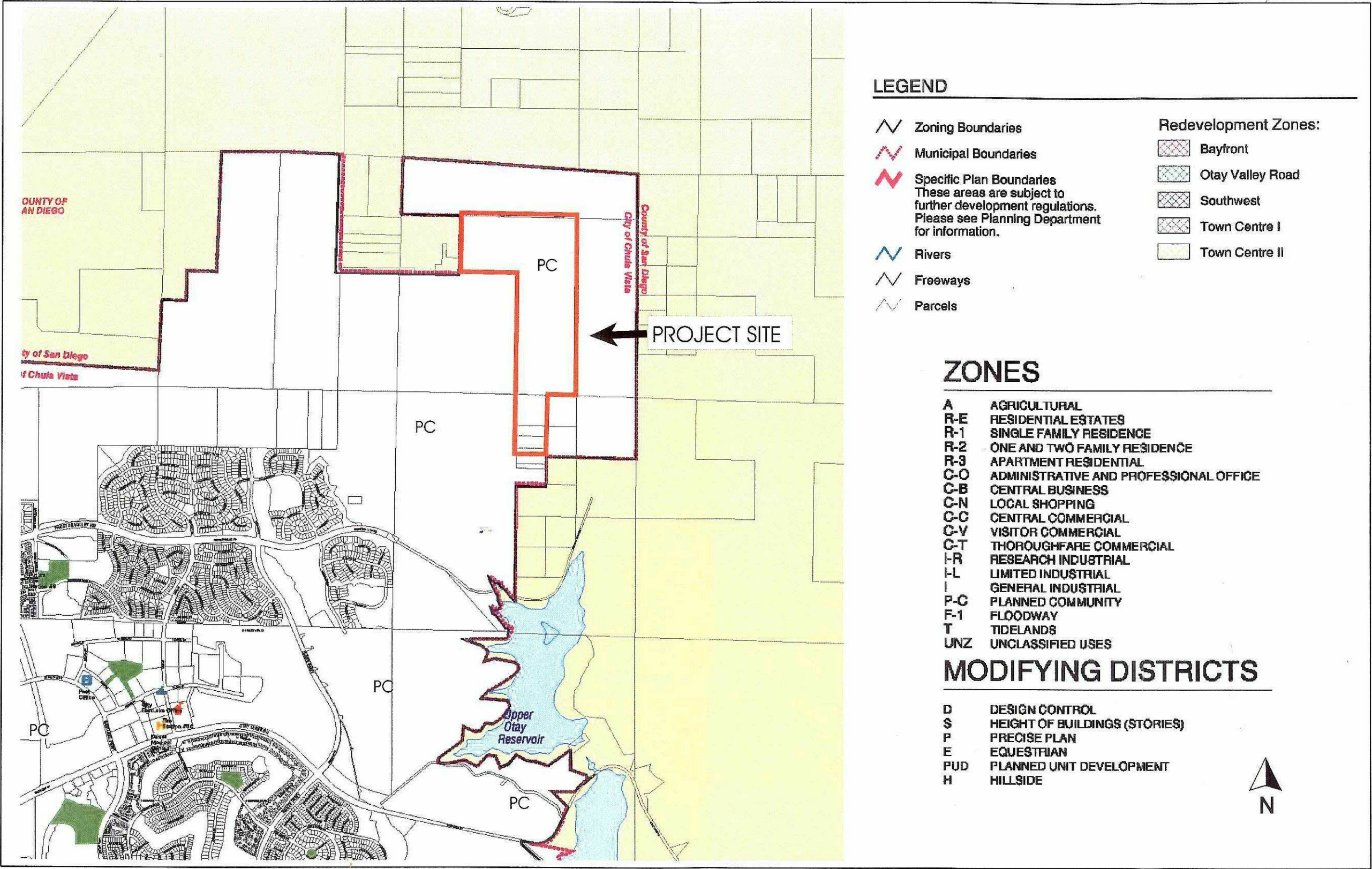
## Multiple Species Conservation Plan (MSCP)/City of Chula Vista Draft MSCP Subarea Plan

The MSCP is a long-term habitat conservation planning program authorized under federal and state law that addresses multiple habitat species needs and the preservation of native vegetation communities for an approximately 900 square mile area within San Diego County. It is one of three subregional habitat planning efforts in San Diego County which will preserve a network of habitat and open space, protecting biodiversity and enhancing the region’s quality of life. The MSCP addresses the potential impacts of urban growth, natural habitat loss, and species endangerment for 12 jurisdictions, including Chula Vista, and identifies a mitigation plan. Both public and private lands within the MSCP area must comply with the MSCP.

The implementation of the MSCP subregional plan is achieved through local Subarea Plans. While the Chula Vista MSCP Subarea Plan has not yet been adopted by City Council, a draft plan has been prepared, and the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* has been designed in accordance with this plan. The Chula Vista Draft MSCP Subarea Plan has been designed to implement all relevant sections of the MSCP and to comply with the goals and requirements for habitat and species conservation. The conservation land identified in the Chula Vista MSCP Subarea Plan is referred to as the “Preserve.” All projects approved by the City of Chula Vista must conform to the Subarea Plan, once adopted.

The Chula Vista MSCP planning area covers a total of 57,828 acres and is defined by the City’s General Plan boundary. The planning area has been divided into three Planning Components: the City Planning Component, the Otay Ranch Planning Component and the Bonita Planning Component. The Bella Lago project site is within the City Planning Component.



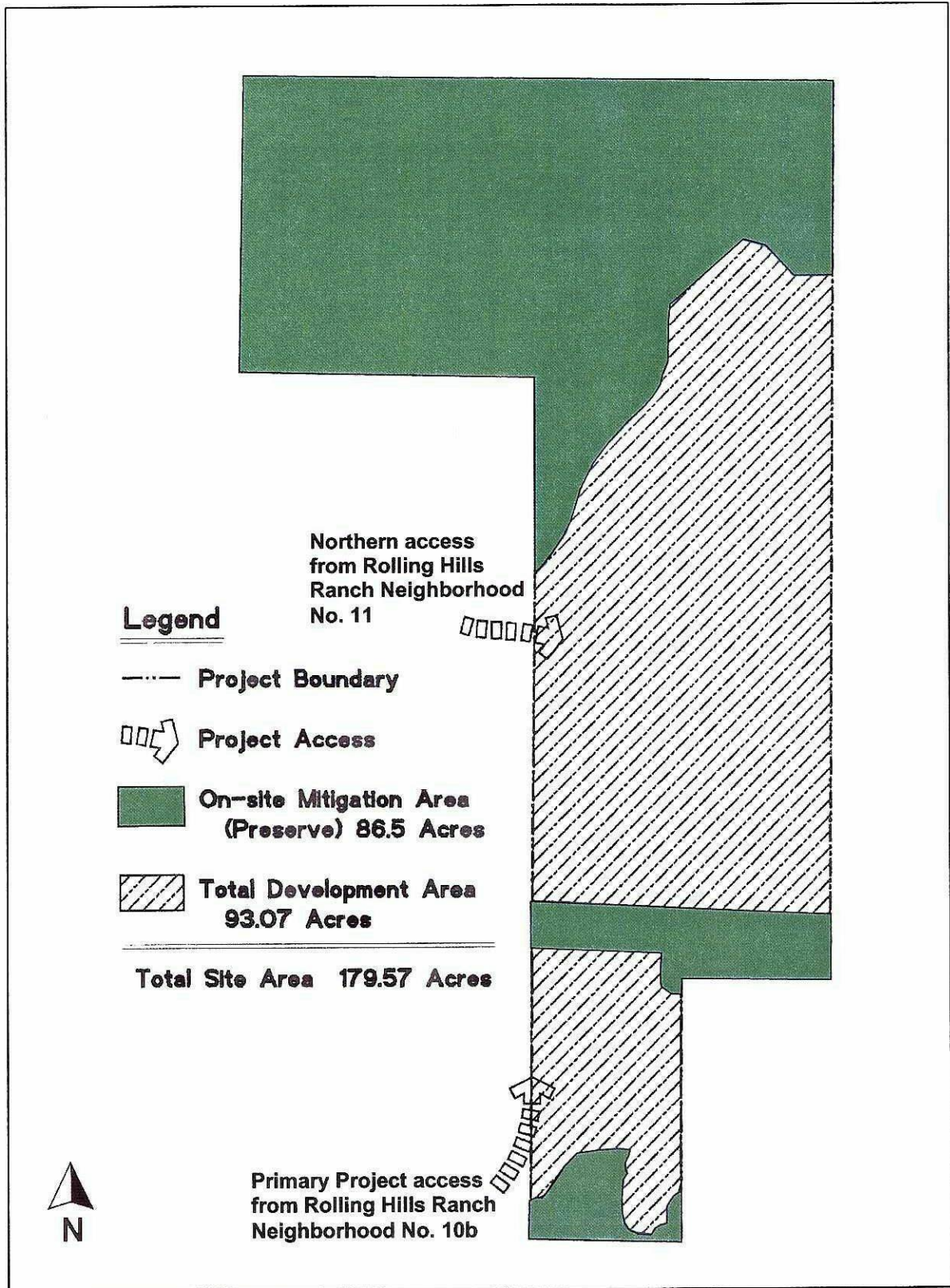




The City Planning Component is comprised of all land within the City's incorporated boundaries, excluding the portion of the City that is a part of the Otay Ranch General Development Plan/Subregional Plan. Most of the land within the City Planning Component has been developed or is planned for development. However, a total of 4,135 acres of vegetation communities have been identified within this area, of which 1,940 acres, or 47 percent, will be conserved. The Preserve within the City Planning Component includes representative areas of major canyon systems that support coastal sage scrub and maritime succulent scrub, and will add rare habitats associated with San Diego Bay. Bella Lago will contribute 86.5 acres of on-site open space dedicated to the Preserve.

The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project has not been granted any development entitlements by the City to-date. However, the property owner has reached an agreement with the City, the USFWS, and CDFG for on-site preservation of habitat lands and off-site mitigation (see Figure 4.1-2, On-Site Mitigation Areas). As a result of this agreement, Bella Lago is considered a "Covered Project" under the MSCP Subarea Plan as long as the specific conditions of coverage and other relevant measures identified in the Subarea Plan are implemented. These conditions include the following:

1. Prepare a 1"=200' scale map showing the precise property boundaries and point locations of the Otay tarplant on the Clarkson-Turner parcels. The mapping will be produced using global positioning equipment utilized on July 20, 2001 and will be provided to the City and the Wildlife Agencies by July 27, 2001.
2. The final development and open space boundaries for Bella Lago will reflect a maximum 20 percent impact on the Otay tarplant population on the property and mitigate off-site for loss of plants at a ratio of 2:1 (habitat area/individuals preserved). Off-site mitigation will be provided by acquiring twice the area of the portion(s) of impacted Otay tarplant polygons on Clarkson-Turner.
3. Development within the Bella Lago boundaries will follow adjacency guidelines, including providing for:
  - a. A six-foot, solid block masonry wall or other barrier as approved by Chula Vista Fire Marshal for adequate fire management at the eastern and southern boundaries of the Clarkson-Turner properties where Otay tarplant is to be preserved.
  - b. The block wall will be located no closer than 25 feet from the nearest Otay Tarplant. No developed area, including non-native landscaping, will be closer than 25 feet from the nearest Otay tarplant, which is being avoided.
  - c. Project lighting will be directed away from the preserve.
  - d. Project runoff will be directed away from the preserve.
  - e. Human access to the preserve will be directed away from the Otay tarplant and variegated dudleya locations. Trails will be located along the existing road. Other than preserve managers, no private/public access will be allowed into the preserve areas from Clarkson or Turner properties without the concurrence of the wildlife agencies.



Source: City of Chula Vista MSCP Subarea Plan

Figure 4.1-2  
On-Site Mitigation Areas

In addition, Bella Lago must comply with the following project-specific management requirements and conditions:

- ◆ Area-specific management directives (ASMDs) for the 86.5-acre Preserve will be prepared and adopted as part of SPA Plan approval;
- ◆ Implementation funding for Preserve management pursuant to the ASMDs must be in place prior to issuance of a grading permit; and
- ◆ The Bella Lago Mitigation, Monitoring and Reporting Program pursuant to CEQA will be consistent with the project's area-specific management directives.

General management guidelines contained in the Chula Vista Draft MSCP Subarea Plan that are relevant to the *Bella Lago Precise Plan, Rezone and Tentative Tract Map* project are presented below.

#### *Litter, Materials Storage, and Illegal Activities*

- ◆ Remove litter and trash on a regular basis; post signage to prevent and report littering in trail and road access areas; provide and maintain trash cans and bins at trail access points.
- ◆ Impose penalties for littering and dumping.

#### *Adjacency Management Issues*

- ◆ Enforce, prevent and remove illegal intrusions into the Preserve on an annual basis, in addition to a complaint basis.
- ◆ Install barriers (fencing, rocks/boulders, vegetation) and/or signage in new communities, where necessary to direct public access to appropriate locations.
- ◆ Require all new development to adhere to the following adjacency guidelines:
  - a. Develop and implement urban runoff and drainage plans which will create the least impact practicable for all development adjacent to the Preserve;
  - b. *Drainage*: All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials and other elements that might degrade or harm the natural environment or ecosystem processes within the Preserve. These systems should be maintained approximately once a year, or as often as needed, to ensure proper functioning.
  - c. *Toxics*: All agricultural uses, including animal-keeping activities, and recreational uses that use chemicals or general by-products such as manure, potentially toxic or impactive to wildlife, sensitive species, habitat, or water quality need to incorporate methods on their site to reduce impacts caused by the application and/or drainage of such materials into the Preserve. Methods shall not be in addition to requirements requested by the Regional Water Quality Control Board.
  - d. *Lighting*: Lighting of all developed areas adjacent to the Preserve should be directed away from the Preserve, wherever feasible and consistent with public safety. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the Preserve and sensitive species from night lighting.

- e. *Noise:* Uses in or adjacent to the Preserve should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas and any other use that may introduce noises that could impact or interfere with wildlife utilization of the Preserve. Excessively noisy uses or activities adjacent to breeding areas, including temporary grading activities, must incorporate noise reduction measures or be curtailed during the breeding season of sensitive bird species.

Where noise associated with clearing, grading or grubbing will negatively impact, as determined by the City's biologist, an occupied nest for the least Bell's vireo during the breeding season from March 15 to September 15, noise levels should not exceed 60 CNEL. However, on a case by case basis, if warranted, a more restrictive standard may be used. If an occupied least Bell's vireo nest is identified in a pre-construction survey, noise reduction techniques, such as temporary noise walls or berms, shall be incorporated into the construction plans to reduce noise levels below 60 CNEL.

Where noise associated with clearing, grubbing or grading will negatively impact, as determined by the City's biologist, an occupied nest for raptors between January 15 and July 31 or the California gnatcatcher between March 1 and August 15 (during the breeding season), clearing, grubbing or grading activities will be modified if necessary, to prevent noise from negatively impacting the breeding success of the pair. If an occupied raptor of California gnatcatcher nest is identified in a pre-construction survey, noise reduction techniques shall be incorporated into the construction plans.

Outside the bird breeding season(s), no restrictions shall be placed on temporary construction noise.

- f. *Invasives:* No invasive non-native plant species shall be introduced into areas immediately adjacent to the Preserve. All slopes immediately adjacent to the Preserve should be planted with native species that reflect the adjacent native habitat. The plant list contained in the "Wildland/Urban Interface: Fuel Modification Standards" (November 1995) should be reviewed and utilized to the greatest extent feasible when developing landscaping plans in areas adjacent to the Preserve. No restrictions shall be placed on plantings internal to the project.
- g. *Buffers:* There shall be no requirements for buffers outside the Preserve, except as may be required for wetlands pursuant to federal and/or State permits, or by local agency CEQA mitigation conditions. All open space requirements for the Preserve shall be incorporated into the Preserve. Fuel modification zones must be consistent with Section 7.4. of the Subarea Plan. [Section 7.4 of the Subarea Plan addresses the three brush management Zones recognized by the City of Chula Vista and their related management regulations.]

#### *Public Access, Trails and Recreation*

- ◆ Incorporate into the City's Greenbelt Master Plan the following: location of all trails within the Preserve; guidelines for trail construction; and guidelines for design of hiking and equestrian staging areas.
- ◆ Develop all new recreation facilities in or adjacent to the Preserve consistent with the adjacency

guidelines found in Section 6.3.2 of the Subarea Plan.

- ◆ Locate trails, view overlooks, and staging areas in the least sensitive areas of the Preserve. Locate trails along the edges of urban land uses adjacent to the Preserve, or the seam between land uses, and follow existing dirt roads as much as possible rather than entering habitat or wildlife movement areas. Avoid locating trails between two different habitat types (ecotones) due to the typically heightened resource sensitivity in those locations.
- ◆ In general, avoid paving trails unless management and monitoring evidence shows otherwise. Clearly demarcate and monitor trails for degradation and off-trail access and use. Provide trail repair/maintenance as needed. Undertake measures to counter the effects of trail erosion including the use of stone or wood crossjoints, edge plantings or native grasses, and mulching of the trail.
- ◆ Minimize trail widths to reduce impacts to critical resources. To the greatest extent feasible, do not locate new trails wider than four feet in core Preserve areas or wildlife corridors. Core areas and wildlife corridors, where new trails will be limited to four feet, will be defined in area-specific management plans. Where trails are planned in concert with sewer or water utility easements, the trail width should consider the easement requirements for the utility. Trails should not be encouraged within SDG&E easements. Provide trail fences or other barriers at strategic locations when protection of sensitive resources is required.
- ◆ Limit the extent and location of equestrian trails to the less sensitive areas of the Preserve. Locate staging areas for equestrian uses at a sufficient distance (e.g. 300-500 feet) from areas with riparian and coastal sage scrub habitats to ensure that the biological values of the preserve are not impaired.
- ◆ Limit the access to finger canyons through subdivision design, fencing or other appropriate barriers, and signage.
- ◆ Provide sufficient signage to clearly identify public access to the Preserve. Barriers such as vegetation, rocks/boulders or fencing may be necessary to protect highly sensitive areas. Use appropriate type of barrier based on location, setting and use. Lands acquired through mitigation may preclude public access in order to satisfy mitigation requirements.
- ◆ Off-road vehicle activity is an incompatible use in the Preserve, provided in other sections of this Subarea Plan.
- ◆ Restore areas disturbed by off-road vehicles to native habitat where possible or critical, or allow vegetation to regenerate.

#### *Invasive Exotics Control and Removal*

- ◆ Do not introduce invasive non-native species into the Preserve. Encourage adjacent residents to voluntarily remove invasive exotics from their landscaping.
- ◆ Where funding allows, remove exotic species within the Preserve, pursuant to specific species requirements outlined in Table 3-5 of the MSCP Subregional Plan and area-specific management directives.

#### *Brush Management*

- ◆ All brush management activity within Bella Lago will be required, as a condition of the Precise Plan, to be conducted outside the Preserve, with the exception of the SDG&E Easement.
- ◆ Bella Lago will be required to work with the Fire Marshal at the time of Tentative Map application to determine the total area that will be necessary for all Zones 1, 2 and 3 brush management activities. The relative fire hazard of the open space adjacent to structures will be determined by the Fire Marshal based

upon slopes and fuel loads (types and extent of vegetation). If the Fire Marshal determines that the fire hazard in the open space area is high, and no other measures are undertaken to abate fire hazard, the Fire Marshal may require a brush management area up to 150 feet from structures. However, brush management requirements may be reduced (as determined and approved by the Fire Marshal) for projects which provide mitigation acceptable to the Fire Marshal, thus reducing the overall distance needed for brush management.

#### *Preserve Management Funding*

- ◆ The *Bella Lago Precise Plan, Rezone and Tentative Tract Map* project will be required to ensure that a funding program, consistent with Section 8.0 of the Subarea Plan, is in place for implementing area-specific management directives prior to City issuance of grading permits.

#### **4.1.2 Threshold of Significance**

As represented in Appendix G of the CEQA Guidelines, the Bella Lago project could have a significant effect if it would:

- ◆ Conflict with any applicable land use plan, policy, or applicable agency regulation; or
- ◆ Conflict with any applicable habitat conservation plan or natural community conservation plan.

#### **4.1.3 Impact Analysis**

The proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would develop large-lot, estate residential units on a portion (93.1 acres) of an approximately 180-acre site within the Eastern Territories planning area. A total of 140 housing units are proposed. The remainder of the site (86.5 acres) would be conserved as open space areas and dedicated to the Preserve.

#### Compatibility with Land Use Plans and Policies

##### *City of Chula Vista General Plan*

According to the City of Chula Vista General Plan, the project has a land use designation of Residential Low (0 to 3 du per acre). This category allows for development of single-family detached dwellings on large, estate lots. Bella Lago proposes to develop large estate lots at a density of 1.5 du per acre, which is consistent with the site's General Plan land use designation.

The proposed Bella Lago development would be a planned housing tract that would provide estate residential housing opportunities within the City of Chula Vista. This development project would comply with the intent of the City to increase the housing stock and provide decent housing in well-planned neighborhoods. Due to the large-lot, estate characteristics of Bella Lago, this housing would target families of a high socioeconomic class.

The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would contribute 86.5 acres of open space to the City's Preserve area, as well as acquire 2.5 acres of off-site mitigation land. This land would preserve natural resources and contribute to a larger open space corridor located in the northeastern portion of the City. The dedication of approximately half of the project site to the Preserve is consistent with the goals of the Open Space Element of the City's General Plan, which include:



- ◆ To preserve natural resources by incorporation into the open space system; and
- ◆ To develop a system of open space corridors.

The project site is within the Eastern Territories and must comply with the Eastern Territories Area Plan contained within Chapter 14 of the General Plan. The conservation of habitat lands and the development of estate residential land uses proposed by the project comply with all applicable goals and objectives identified within the Area Plan, including:

- ◆ To protect the most important environmental resources from urban development and its potential, negative impacts; and
- ◆ To accommodate and regulate development in ways which will protect the significant natural environment and create high quality urban environments for living and working.

With respect to the natural environment, Bella Lago proposes developing on the flatter portions of the site, and approximately half of the site (86.5 acres) would be preserved in large contiguous areas to allow for the continued viability of natural habitat areas. This is consistent with the Eastern Territories Area Plan. The project would not result in impacts related to land use compatibility within the Eastern Territories Area.

The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would also comply with the other applicable elements of the General Plan including Public Facilities; Growth Management; Safety; and Noise. Public facilities and safety issues are described and analyzed in Section 4.11, *Utilities and Public Services*, of this EIR. Section 4.11 also identifies the City's adopted threshold standards for compliance with the Growth Management Element, and discusses the project's compliance with them. No impacts on public services, safety, or growth management have been identified in this EIR; therefore, the proposed project would not conflict with the Public Facilities, Safety or Growth Management Elements of the General Plan. The project's noise impacts are analyzed in Section 4.4, *Noise*, of this EIR. The project would not result in any long-term noise pollution; therefore it would meet the objectives and policies of the Noise Element which are aimed at ensuring a community free of noise pollution. No conflicts with the City's General Plan would occur with the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project.

### *Zoning*

The proposed project would rezone the site from Planned Community (P-C) to Residential Estate (R-E) with a Precise Plan (P) Modifying District. The R-E zone requires a minimum lot size of 20,000 square feet and is intended to promote and preserve an open, rural environment. The P Modifying District requires the preparation of a Precise Plan that identifies specific guidelines for the development of a specified area. As required by the P Modifying District, a Precise Plan for Bella Lago has been prepared. For the development of Bella Lago, the Bella Lago Precise Plan allows for a minimum lot size of 15,000 square feet. The proposed development of single-family residences on large, estate lots with an average size of 23,413 square feet is consistent with the purpose and requirements of the R-E zone and Bella Lago Precise Plan. The proposed project would comply with all applicable zoning regulations and no impacts would result.

### Compatibility with the Chula Vista Draft MSCP Subarea Plan

The Chula Vista Draft MSCP Subarea Plan was prepared in accordance with the MSCP Subregional Plan, and implements that plan for the Chula Vista area. The *Bella Lago Precise Plan, Rezone and Tentative Tract Map* project is within the City Planning Component of the Subarea Plan. The City Planning Component identifies 1,940 acres for preservation, referred to as the Preserve, which includes areas of major canyon systems, coastal sage scrub and maritime succulent scrub. The project proposes to conserve 86.5 acres within the City Planning Component as part of the Preserve, which would help implement the MSCP within the project area and would not conflict with the Draft Subarea Plan.

Based on updated biological surveys, hard-line preserve boundaries were developed for the project site in consultation with the wildlife agencies and the City of Chula Vista. In addition, specific conditions of coverage were identified for the project to implement in order to be considered a "Covered Project". The project would meet the specific conditions of coverage as identified in the Draft MSCP Subarea Plan with the implementation of the following measures.

- ◆ On-site conservation as identified on Figure 4.1-2.
- ◆ Maximum 20 percent impact to Otay tarplant and off-site mitigation at a 2:1 ratio.
- ◆ A six-foot, solid block masonry wall or other barrier as approved by Chula Vista Fire Marshal for adequate fire management at the eastern and southern boundaries of the Clarkson-Turner properties where Otay tarplant is to be preserved.
- ◆ The block wall will be located no closer than 25 feet from the nearest Otay tarplant. No developed area, including non-native landscaping, will be closer than 25 feet from the nearest Otay tarplant, which is being avoided.
- ◆ Project lighting will be directed away from the preserve.
- ◆ Project runoff will be directed away from the preserve.
- ◆ Human access to the preserve will be directed away from the Otay tarplant and variegated dudleya locations. Trails will be located along the existing road. Other than preserve managers, no private/public access will be allowed into the preserve areas from Clarkson or Turner properties without the concurrence of the wildlife agencies.

These specific conditions of coverage, as well as other applicable measures outlined in the Draft MSCP Subarea Plan (e.g. grading monitoring for the Quino checkerspot butterfly), have been incorporated in the project's design and/or Area Specific Management Directives (ASMDs), consistent with the requirements of the Draft MSCP Subarea Plan. The ASMDs include a funding mechanism to ensure the long-term management of the on-site 86.5 acres and 2.5 acres off-site in the preserve. Funding will be in place prior to issuance of the grading permits for the project. In addition, as required by the Draft MSCP Subarea Plan, the Mitigation Monitoring and Reporting Program (see Section 7 of this EIR) incorporates the ASMDs.

### Compatibility with the Surrounding Existing and Future Land Uses in the Project Vicinity

The project site is surrounded to the north, east, and south by Preserve lands. Therefore, no development is currently found in these areas nor will it occur in these areas. A residential development, especially one of large, estate lots, is considered compatible with adjacent open space areas. In addition, the portion of the project site that would be conserved as open space is adjacent to other surrounding open space areas, and would result in the creation of a larger open space area within the City of Chula Vista. No conflicts with open space land would occur.

Bordering the project site on the west project boundary are Neighborhoods 10B and 11 of the Rolling Hills Ranch, an approved single-family residential development. The open space and estate residential land uses of Bella Lago are compatible with a single-family neighborhood land use. Development of Neighborhoods 10B and 11 would result in the construction of single-family detached residences.

Currently, the Rolling Hills Ranch site adjacent to the project site is vacant land. If this portion of Rolling Hills Ranch were to develop after the proposed Bella Lago project, the existing vacant land would be considered compatible with the proposed residential and open space land uses of the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project. No conflicts with surrounding land uses would result from the development of Bella Lago.

Other development within the Eastern Territories Planning Area must comply with the General Plan, the Eastern Territories Area Plan, and the MSCP Subarea Plan as well. Compliance of the surrounding development with these policies would ensure Bella Lago's compatibility with other land uses within the Eastern Territories. The Bella Lago project would be consistent with the character of the Eastern Territories Planning Area, and no conflict with surrounding land uses would occur.

#### **4.1.4 Level of Significance Before Mitigation**

Development of Bella Lago would result in a significant change in the character of the southern portion of the site, which would change from an undeveloped to a developed use. Development of the project, as proposed, would be consistent with the land use designations, zoning, intensity of development, and environmental goals of the Chula Vista General Plan, the Zoning Ordinance, the City's Draft MSCP Subarea Plan, and the surrounding land uses. Therefore, significant land use impacts would not occur.

#### **4.1.5 Mitigation Measures**

No significant impacts are identified for land use, planning and zoning. Therefore, no mitigation measures are recommended.

#### **4.1.6 Level of Significance After Mitigation**

The proposed project would comply with the applicable land use, planning, and zoning regulations, and no significant impacts would occur. A significant change to the character of the site would occur; however, the development of the project site is anticipated in the General Plan and therefore is not considered a significant impact and no mitigation is recommended.

## 4.2 BIOLOGICAL RESOURCES

Biological surveys of the project site were conducted by *Affinis* to identify on-site biological resources and to assess potential impacts to sensitive biological resources. The original 160-acre site (Watson-McCoy property) was surveyed three times on foot, and habitat was mapped by *Affinis* biologists. The surveys focused on potentially sensitive plant and wildlife species. As a result of the surveys, a biological resource report titled *Biological Resources Report*, was completed on December 10, 1997. When the Turner and Clarkson parcels were incorporated into the project site (18.2 acres in the southern portion of the site), a focused survey was conducted on June 2, 1999, to identify rare plant species. The results of these studies were added to the original 1997 *Biological Resources Report* to update the document. Therefore, the entire 180-acre project site has been surveyed for biological resources. A copy of the updated *Biological Resources Report* (updated August 2002) is included as Appendix B to this EIR. The conclusions of the *Biological Resources Report* are used as a basis for assessing the potential impacts addressed in this section relative to the development of Bella Lago.

For the evaluation of the project if Bella Lago develops prior to Subarea III of Rolling Hills Ranch, the Salt Creek Ranch Final and Supplemental EIRs (SCH #89092721) and accompanying biological studies have been used as the basis for evaluating potential impacts associated with off-site improvements necessary to serve Bella Lago. The analysis for off-site improvements required to serve Bella Lago remains unchanged from that contained in the Rolling Hills Ranch environmental documents and biological studies, with the exception of the status of plant and animal species which may have been identified as sensitive under the State and Federal Endangered Species Acts since the time that the Rolling Hills Ranch project was approved. Rolling Hills Ranch Subarea III is considered a "Covered Project" in the City's Draft MSCP. As a result of the City's Draft MSCP, development within the southwestern portion of Rolling Hills Ranch has been deleted from future development due to the sensitivity of resources in that area. Development planned for that area has been moved to the eastern portion of Rolling Hills Ranch in areas where protection of sensitive resources is not required. Off-site improvements necessary to serve Bella Lago if development of Bella Lago precedes development approved for Rolling Hills Ranch Subarea III would occur in the eastern portion of Rolling Hills Ranch. The analysis contained in the Salt Creek Ranch Final and Supplemental EIRs for that area remains valid and applicable to the proposed Bella Lago project under the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenario.

### **4.2.1 Existing Conditions**

#### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

##### **Vegetation**

##### **Habitats**

According to the *Biological Resources Report* (updated August 2002), seven habitats occur within the proposed project site. These habitats are shown in Figure 4.2-1, *Biological Resources*, and are identified in Table 4.2-1, *Biological Resource Habitats Occurring Onsite*, as described below.

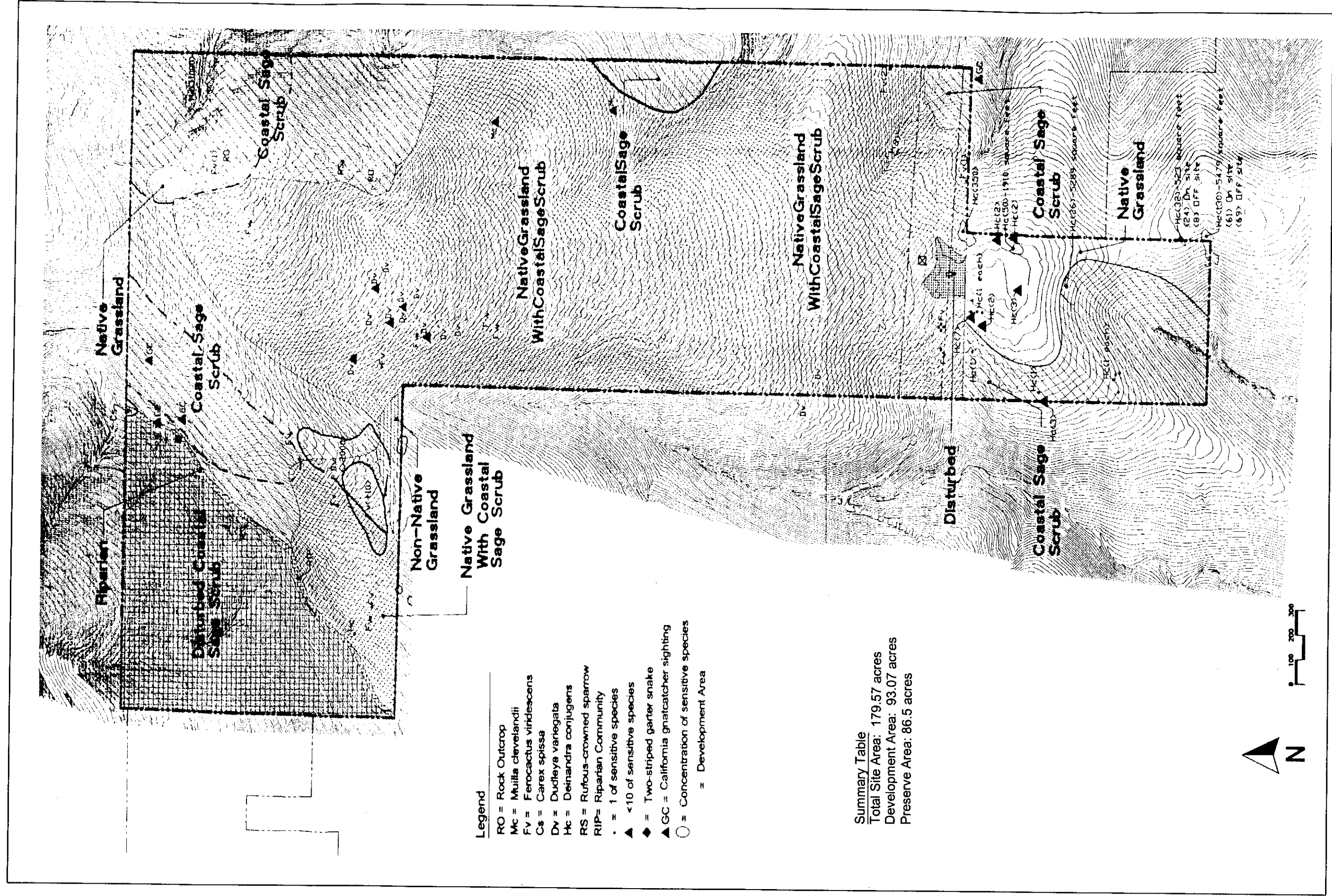


Figure 4.2-1  
Biological Resources  
Page 4.2-2

TABLE 4.2-1  
BIOLOGICAL RESOURCE HABITATS OCCURRING ONSITE

Habitat Type	Number of Acres	Percent of Parcel
Native Grassland/Coastal Sage Scrub	101.7	57
Coastal Sage Scrub	47.2	26
Disturbed Coastal Sage Scrub	20.2	11
Riparian	0.8	<1
Non-native grassland	1.0	<1
Native grassland	7.9	4
Disturbed	0.8	<1
<b>Total</b>	<b>179.6</b>	<b>100</b>

### *Native Grassland/Coastal Sage Scrub*

The proposed project site consists primarily of native grassland, mainly purple needlegrass (*Nassella pulchra*). Some exotic grasses such as wild oat (*Avena* sp.) occur along the margins of the native grasslands where they border dirt roads. There are a small number of coastal sage-affiliated shrubs which are intermixed with the grasses, including coast sagebrush (*Artemisia californica*), buckwheat (*Eriogonum fasciculatum*), and bladderpod (*Isomeris arborea*). This habitat is referred to as native grassland/coastal sage scrub, and approximately 101.7 acres occur within the proposed project site.

### *Coastal Sage Scrub*

Approximately 47.2 acres of coastal sage scrub habitat, dominated by coast sagebrush, buckwheat, laurel sumac (*Malosma laurina*), and coast goldenbush (*Isocoma menziesii* var. *menziesii*), occur in the northern portion of the property. The coastal sage scrub supports a large component of purple needlegrass as well as populations of several sensitive plant species (*Muilla clevelandii*, *Dudleya variegata*, and *Ferocactus viridescens*). Large rock outcrops are also present in the coastal sage scrub and are located in the northeastern corner of the property.

### *Disturbed Coastal Sage Scrub*

There are areas within the project site where the dominant habitat is coastal sage scrub with a large component of exotic species (disturbed coastal sage scrub habitat). The exotics are primarily grasses, particularly dense areas of wild oat. Approximately 20.2 acres of disturbed coastal sage scrub habitat were mapped on the slope of San Miguel Mountain. There are also many rock outcrops of varying sizes on the slope.

### *Riparian*

Riparian habitat also occurs within the proposed project site. This habitat is associated with the intermittent stream that runs northeast to southwest in the northwestern portion of the project site. The habitat is dominated by dense San Diego marsh elder (*Iva hayesiana*) along the entire length of the stream, with occasional spiny rush (*Juncus acutus*). Small pools of water were also observed in the rockier portions of the drainage area. Immediately north of the property, a patch of southern willow scrub occurs along the stream, but the 0.8 acre of riparian habitat on-site lacks the willows, mulefat, and other species commonly associated with riparian areas.

### *Non-Native Grassland*

There are three eucalyptus trees located in the western portion of the site. In addition, a small area of non-native grassland (1.0 acre) occurs near the eucalyptus trees. This area is grown to exotic grasses, with little or no native vegetation present.

### *Native Grasslands*

Approximately 7.9 acres of native grassland habitat, dominated by purple needlegrass, occurs in the Clarkson-Turner parcel in the southern portion of the project site. Oat tarplant (*Deinandra conjugens*), a narrow endemic, is found in this area.

### *Disturbed*

Approximately 0.8 acre of disturbed habitat occurs within the southern portion of the project area. This area is associated with the SDG&E utility easement and transmission lines, which traverse the site in an east-west direction. This area is essentially barren.

### Species

The seven habitats occurring within the project site support a variety of vegetation types. Plant species observed during the site visits are presented in Appendix 1 of the *Biological Resources Report* (see Appendix B).

### **Wildlife**

During the survey conducted for Bella Lago, a total of 22 bird species, four mammals or signs of mammals, and four reptiles were observed within the project site.

### Birds

The most common bird species observed were grasshopper sparrows (*Ammodramus savannarum*), considered sensitive by the National Audubon Society; meadowlarks (*Sturnella neglecta*); and horned larks (*Eremophila alpestris*), a CDFG species of concern. Other avian species observed include white-tailed kites (*Elanus caeruleus*), a federal species of concern; golden eagles (*Aquila chrysaetos*), a CDFG species of concern; and Cassin's kingbirds (*Tyrannus vociferans*). A complete list of birds that were observed within the project site are identified in Appendix 2 of the *Biological Resources Report* (see Appendix B).

### Mammals

Mammals identified by sign included mule deer (*Odocoileus hemionus fuliginatus*) and coyote (*Canis latrans*). Mounds of pocket gopher (*Thomomys bottae*) were noted and Audubon's cottontails (*Sylvilagus auduboni*) were seen. Many small rodents of the genera *Peromyscus* and *Microtus* would also be expected on the property. There is the potential for larger carnivores such as bobcats (*Lynx rufus*) and mountain lions (*Felis concolor*) to use the site on occasion. Appendix 3 of the *Biological Resources Report* (see Appendix B) identifies the mammals and reptiles observed on the project site.

### Reptiles

Two lizard and two snake species were noted on the property. Western fence lizards (*Sceloporus occidentalis*) and side-blotched lizards (*Uta stansburiana*) were observed in the coastal sage scrub, disturbed coastal sage scrub, and native grassland habitats. A western Pacific rattlesnake (*Crotalus viridis*) was heard in dense brush near the largest rock outcrop. A two-striped garter snake (*Thamnophus hammondi*), which is a federal and state species of concern, was observed in a pool of standing water in riparian habitat.

### Amphibians

No amphibians were observed during the survey; however, the pools in the riparian habitat could support species such as California chorus frog (*Pseudacris regilla*).

## **Sensitive Species**

### Narrow Endemics

Two narrow endemic plant species were observed within the proposed project site (see Figure 4.2-1, *Biological Resources*). Narrow endemics are species with restricted geographic ranges, due to specific soil or habitat requirements. These species are highly susceptible to habitat loss. The first narrow endemic is the variegated dudleya (*Dudleya variegata*). A major population of variegated dudleya, with several thousand individuals, was observed in the northwestern portion of the property. Scattered smaller populations, ranging from a single plant up to about 200 individuals, were seen to the south and east of the largest population. The second narrow endemic species found within the project site is the Otay tarplant (*Hemizonia conjugens*), a federally threatened and state-listed endangered species. One individual plant was observed in the northwestern portion of the project site and several populations, totaling 540 plants, were mapped on the Clarkson-Turner parcel. Otay tarplant is generally restricted to the Otay Mesa and Otay Mountain areas of San Diego County.

### Other Sensitive Plant Species

San Diego goldenstar (*Muilla clevelandii*) is an MSCP-covered species which occurs in two large populations within the project site. A significant population of over 1,000 individuals occurs in the northeastern part of the project site. A smaller population of approximately 300 scattered individuals was identified in the north-central part of the project site. Two smaller populations (less than 10 individuals) were identified along the eastern side of the site.

Coast barrel cactus (*Ferocactus viridescens*), an MSCP-covered species, was also identified within the project site. There were many scattered individuals and small populations identified throughout the site, but the majority occur in the northwestern portion of the proposed project area.

San Diego marsh elder (*Iva haysiana*) is a CNPS List 2 species (rare in California, but more common elsewhere). It was identified throughout the drainage in the northwestern portion of the site.

Munz's Sage (*Salvia munzii*) is a CNPS List 2 species. A single individual was seen growing on the largest rock outcropping on the site.



Western Dichondra (*Dichondra occidentalis*), a CNPS List 4 (plants of limited distribution) was also identified within the project site. Dichondra was observed in the disturbed coastal sage scrub on the slopes of San Miguel Mountain.

Ashy Spike Moss (*Selaginella cinerascens*) is a CNPS List 4 species. This species was identified within the project site, especially within coastal sage scrub habitat.

San Diego Sunflower (*Viguiera laciniara*) is a CNPS List 4 species. It occurs commonly throughout the southern half of San Diego County and was found throughout the project site.

### Sensitive Wildlife

Seven sensitive wildlife species were observed to occur on the property. As identified earlier, the two-striped garter snake (*Thamnophus hammondi*), the Southern rufous-crowned sparrow (*Aimophila ruficeps canescens*), white-tailed kite (*Elanus caeruleus*), and the California horned lark (*Eremophila alpestris actis*) were observed on the site. The golden eagle (*Aquila chrysaetos*) was observed flying over the proposed project site. There was an abundance of grasshopper sparrows (*Ammodramus savannarum*) observed on the site. Additionally, *Carex spissa*, the host plant for the Harbinson's dun skipper, a butterfly proposed for federal listing as endangered, was identified within the project site.

### Covered Species Under the MSCP

Golden eagles (*Aquila chrysaetos*), an MSCP-covered species, were observed foraging on the property. A historic nest site was discovered nearby in the early 1900's by one of four known eagle egg collectors at that time. Two chicks were produced in this nest this year. A pair of golden eagles was seen on several occasions flying overhead during both surveys. One eagle was observed catching prey on-site. Approximately 15 percent of the proposed project site are within 4,000 feet of the known nest location. This area is proposed for open space and would not be affected by the Bella Lago project.

California gnatcatchers (*Poliophtila californica californica*), a federal-listed Threatened species, were observed in coastal sage scrub habitat on and adjacent to the project site. One family group was observed in the northwestern portion of the property in disturbed coastal sage scrub adjacent to the riparian habitat. The male from this family group was observed in coastal sage scrub east of the riparian area. A single adult gnatcatcher was also seen about ten feet south of the southeastern portion of the project site; its sex was indeterminate. A family and a pair of gnatcatchers were also observed on the Clarkson/Turner parcel.

Rufous crowned sparrows (*Aimophila ruficeps canescens*) were identified at several locations on the project site. They are associated with coastal sage scrub and are listed as a covered species in the MSCP.

Sign of mule deer (*Odocoileus hemionus*) was found on the project site. While not considered sensitive, the MSCP identifies this species as needing protection for aesthetic and intrinsic value, as it is the only large herbivore remaining in local habitats. The protection of the MSCP is extended to mule deer and needs to be considered in any planning decision within the MSCP area.

Surveys for the federal-listed Endangered Quino checkerspot butterfly (*Euphyas editha quino*) were conducted in 1998, 1999, and 2001. Although the 1998 survey was rejected by the wildlife agencies and

1999 was not considered an optimal year for detecting the Quino, all three surveys were negative in identifying the Quino on the project site. Although not a covered species under the MSCP Subregional Plan, the Quino checkerspot butterfly is proposed to be covered under the City of Chula Vista's Draft Subarea Plan.

#### Other Sensitive Wildlife Species

Though outside the known range of the Harbison's dun skipper (*Euphyes vestris harbisoni*), the host plant (*Carex spissa*) for this butterfly was observed along the northern boundary of the property. The Harbison's dun skipper is proposed for federal listing as endangered.

Horned larks (*Eremophila alpestris*) have also been observed within the project site. They are year-round residents of San Diego County, inhabiting disturbed areas, beaches, grasslands and agricultural fields. They are most abundant in the fall when winter migrants arrive. They were frequently observed using the dirt roads that are on the project site.

The two-striped garter snake (*Thamnopsis hammondi* ssp. *hammondi*) was identified in the project site area. Occurring near permanent or nearly permanent water sources, often living in pools among rock outcroppings, a single individual was seen in pooled water in the drainage area, located in the northwest portion of the site.

The white-tailed kite (*Elanus caeruleus*) is a relatively common resident in San Diego County. A pair of kites were observed roosting in the eucalyptus trees near the center of the project site. According to the CDFG, they are state-listed as a "special animal" and as a "taxa closely associated with a habitat that is declining in California. The population of this species has increased in the County during this century. They tend to forage in open grassy areas and nest in riparian woodlands bordering grassy fields.

#### Sensitive Habitat

Coastal sage scrub habitat has been drastically reduced throughout its range in southern California due to land development. Large losses of this habitat are attributed to its natural occurrence on rolling and gently sloping terrain located from the coast to the foothills, lands which are highly desirable for development. Coastal sage scrub habitat is known to be required habitat of the California gnatcatcher (*Poliophtila californica californica*), a federal-listed Threatened species. A significant number of plant and vertebrate species associated with coastal sage scrub habitat have been listed as threatened or endangered, or are candidates for listing by State and Federal resource agencies.

Preservation of coastal sage scrub is the pilot project for the State of California's Natural Communities Conservation Plan (NCCP). The California gnatcatcher, cactus wren, and orange-throated whiptail have been identified as three primary target species for protection under the regional MSCP. The MSCP guidelines divide habitat sensitivity into four tiers. Tier one represents the most sensitive and rare habitat, and tier four habitats have the least resource value. The County draft mitigation ordinance and the Chula Vista Draft MSCP Subarea Plan list coastal sage scrub as a tier two habitat.

Native grasslands have been greatly reduced throughout their range due to the introduction of exotic species, plowing, and development. Rare in San Diego County, native grassland is considered a tier one habitat.

Riparian habitat has been reduced in Southern California with the channelization of and development along river systems. In San Diego County, several federal-listed Endangered species are associated with riparian habitats. These habitats are also an important resource to many other species as a source of water and cover;

they provide corridors for wildlife movement.

### Preserve Adjacency

The Draft MSCP Subarea Plan has included the Bella Lago property in its planning as a property within and adjacent to the planned preserve. An Adjacency Management Issues section is included under the City Planning Component Framework Management Plan of the City's Draft MSCP Subarea Plan to address potential significant impacts to the preserve resulting from development adjacent to the preserve area. The Adjacency Management Issues section includes Priority One and Priority Two recommendations. Priority One recommendations are classified for managing and maintaining biological resources within the Preserve, including management tasks that are necessary to ensure that the Covered Species are adequately protected. Priority Two recommendations are classified as enhancing the quality and function of the Preserve.

Priority One measures under the Adjacency Management Issues section include enforcement, prevention, and removal of illegal intrusions, as well as the installation of signage and barriers to direct public access to the appropriate location. Adjacency guidelines designed to lessen potential significant adjacency impacts to the Preserve to below a level of significance are also outlined under Priority One recommendations and are included in Table 4.2-2, *Draft MSCP Subarea Plan Adjacency Guidelines*. Adjacency guidelines address different issue areas, which have the potential to impact the preserve including drainage, toxics, lighting, noise, invasive species, and buffers.

**TABLE 4.2-2**  
**DRAFT MSCP SUBAREA PLAN ADJACENCY GUIDELINES**

Issue Area	Adjacency Guideline
Drainage	<p>1) All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials and other elements that might degrade or harm the natural environment or ecosystem processes within the Preserve. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. These systems should be maintained approximately once a year, or as often as needed, to ensure proper functioning. Maintenance should include dredging out sediments if needed, removing exotic plant materials, and adding chemical-neutralizing compounds (e.g. clay compounds) when necessary and appropriate.</p> <p>2) Develop and implement urban runoff and drainage plans which will create the least impact practicable for all development adjacent to the Preserve. All development projects will be required to meet NPDES standards and incorporate BMPs as defined by the City's Standard Urban Storm Mitigation Plan (SUSMP).</p> <p>3) Adopt and implement a SUSMP, pursuant to requirements as a co-permittee of the RWQCB National Pollution Discharge Elimination System (NPDES) Permit to meet the following goals:</p> <ul style="list-style-type: none"> <li>◆ Control post-development peak storm water runoff discharge rates and velocities to maintain or reduce pre-development downstream erosion and to protect stream habitat;</li> <li>◆ Conserve natural areas where feasible;</li> <li>◆ Minimize storm water pollutants of concern in runoff;</li> <li>◆ Remove pollutants of concern from urban runoff;</li> <li>◆ Minimize directly connected impervious areas where feasible;</li> <li>◆ Protect slopes and channels from eroding;</li> </ul>

	<ul style="list-style-type: none"> <li>◆ Include storm drain stenciling and signage;</li> <li>◆ Include additional water quality provisions applicable to individual project categories;</li> <li>◆ Ensure that post-development runoff does not contain pollutant loads which cause or contribute to an exceedance of water quality objectives or which have not been reduced to the maximum extent practicable; and,</li> <li>◆ Implement BMPs close to sources.</li> </ul> <p>4) Require all NPDES-regulated projects to implement a combination of BMPs as close to potential pollutant sources as feasible.</p>
Toxics	All agricultural uses, including animal-keeping activities, and recreational uses that use chemicals or general by-products such as manure, potentially toxic or impactful to wildlife, sensitive species, habitat, or water quality need to incorporate methods on their site to reduce impacts caused by the application and/or drainage of such materials into the Preserve. Methods shall be consistent with requirements of the RWVCB and NPDES standards.
Lighting	Lighting of all developed areas adjacent to the Preserve should be directed away from the Preserve, wherever feasible and consistent with public safety. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the Preserve and sensitive species from night lighting. Consideration should be given to the use of low-pressure sodium lighting.
Noise	<p>Uses in or adjacent to the Preserve should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas and any other use that may introduce noises that could impact or interfere with wildlife utilization of the Preserve. Excessively noisy uses or activities adjacent to breeding areas, including temporary grading activities, must incorporate noise reduction measures or be curtailed during the breeding season of sensitive bird species, consistent with Table 3-5 of the MSCP Subregional Plan.</p> <p>Where noise associated with clearing, grading or grubbing will negatively impact an occupied nest for the least Bell's vireo during the breeding season (March 15 to September 15), noise levels should not exceed 60 LEQ. However, on a case by case basis, if warranted, a more restrictive standard may be used. If an occupied least Bell's vireo nest is identified in a pre-construction survey, noise reduction techniques, such as temporary noise walls or berms, shall be incorporated into the construction plans to reduce noise levels below 60 LEQ.</p>
	<p>Where noise associated with clearing, grubbing or grading will negatively impact an occupied nest for raptors between January 15 and July 31 or the California gnatcatcher between February 15 and August 15 (during the breeding season), clearing, grubbing or grading activities will be modified if necessary, to prevent noise from negatively impacting the breeding success of the pair. If an occupied raptor or California gnatcatcher nest is identified in a pre-construction survey, noise reduction techniques shall be incorporated into the construction plans.</p> <p>Outside the bird breeding season(s) no restrictions shall be placed on temporary construction noise.</p>
Invasives	No invasive non-native plant species shall be introduced into areas immediately adjacent to the Preserve. All open space slopes immediately adjacent to the Preserve should be planted with native species that reflect the adjacent native habitat. The plant list contained in the "Wildland/Urban Interface: Fuel Modification Standards" must be reviewed and utilized to the maximum extent feasible when developing landscaping plans in areas adjacent to the Preserve.

Buffers	There shall be no requirements for buffers outside the Preserve, except as may be required for Wetlands pursuant to Federal and/or State permits, or by local agency CEQA mitigation conditions. All open space requirements for the Preserve shall be incorporated into the Preserve. Fuel modification zones must be consistent with Section 7.4.4 of the Subarea Plan.
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The Priority Two recommendations include disseminating educational information to residents and landowners adjacent to and inside the Preserve. For new communities, development of educational materials will be required as part of SPA approvals, and will be implemented as a Priority One recommendation.

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

The existing biological setting for the project site under this scenario would be the same as described above, with the addition to the biological resources found within the area where off-site improvements would be required to serve Bella Lago if it develops prior to Rolling Hills Ranch Subarea III. According to the Salt Creek Ranch Final and Supplemental EIRs (SCH #89092721), the Rolling Hills Ranch (formerly called Salt Creek Ranch) property supports four plant communities; coastal sage scrub, native grassland, disturbed grassland, and wetlands. These four plant communities are found within the eastern portion of Rolling Hills Ranch, where the off-site area would be located. Additional biological resources within the eastern portion of Rolling Hills Ranch include three cactus wren nests and sitings of two grasshopper sparrows and two black-tailed gnatcatchers.

The approved Rolling Hills Ranch project has an adopted General Development Plan and SPA plan and is a "Covered Project" under the City of Chula Vista MSCP Draft Subarea Plan. The impacts to habitat resulting from the Rolling Hills Ranch project will be mitigated through the conservation of approximately 314.6 acres of upland habitat, which is comprised of approximately 265.9 acres on-site and approximately 48.7 acres elsewhere in the MSCP Subregional Preserve, comprised of ~~In addition, the Rolling Hills Ranch project would contribute the following off-site mitigation:~~

1. Conservation of 5.8 acres within the San Miguel Mountain Mitigation Bank and containing approximately 15,080 Otay tarplants;
2. Conservation of a separate off-site 10-acre parcel located within the MSCP Subregional Preserve, containing a minimum of 15,000 Otay tarplants;
3. Conservation of 30 acres of coastal sage scrub within the San Miguel Mitigation Bank to comply with a Section 7 Consultation completed through the issuance of Biological Opinion 1-5-00-F-F-28 on September 12, 2000;
4. Conservation of approximately 1.9 acres of Otay tarplant within the San Miguel Mitigation Bank to comply with the Section 7 Consultation cited in #3 above; and
5. Conservation of one acre of native grassland within the San Miguel Mitigation Bank to comply with the Section 7 Consultation cited in #3 above.

#### **4.2.2 Threshold of Significance**

According to Appendix G of the CEQA Guidelines, a project could have a significant effect on biological resources if it would:

- ◆ Affect sensitive or species of special concern or their habitats, sensitive natural communities, or federally



protected wetlands, or interfere with the movement of wildlife species within wildlife corridors or nursery sites; or

- ◆ Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

### 4.2.3 Impacts Analysis

#### Development of Bella Lago After Development of Rolling Hills Ranch Subarea III

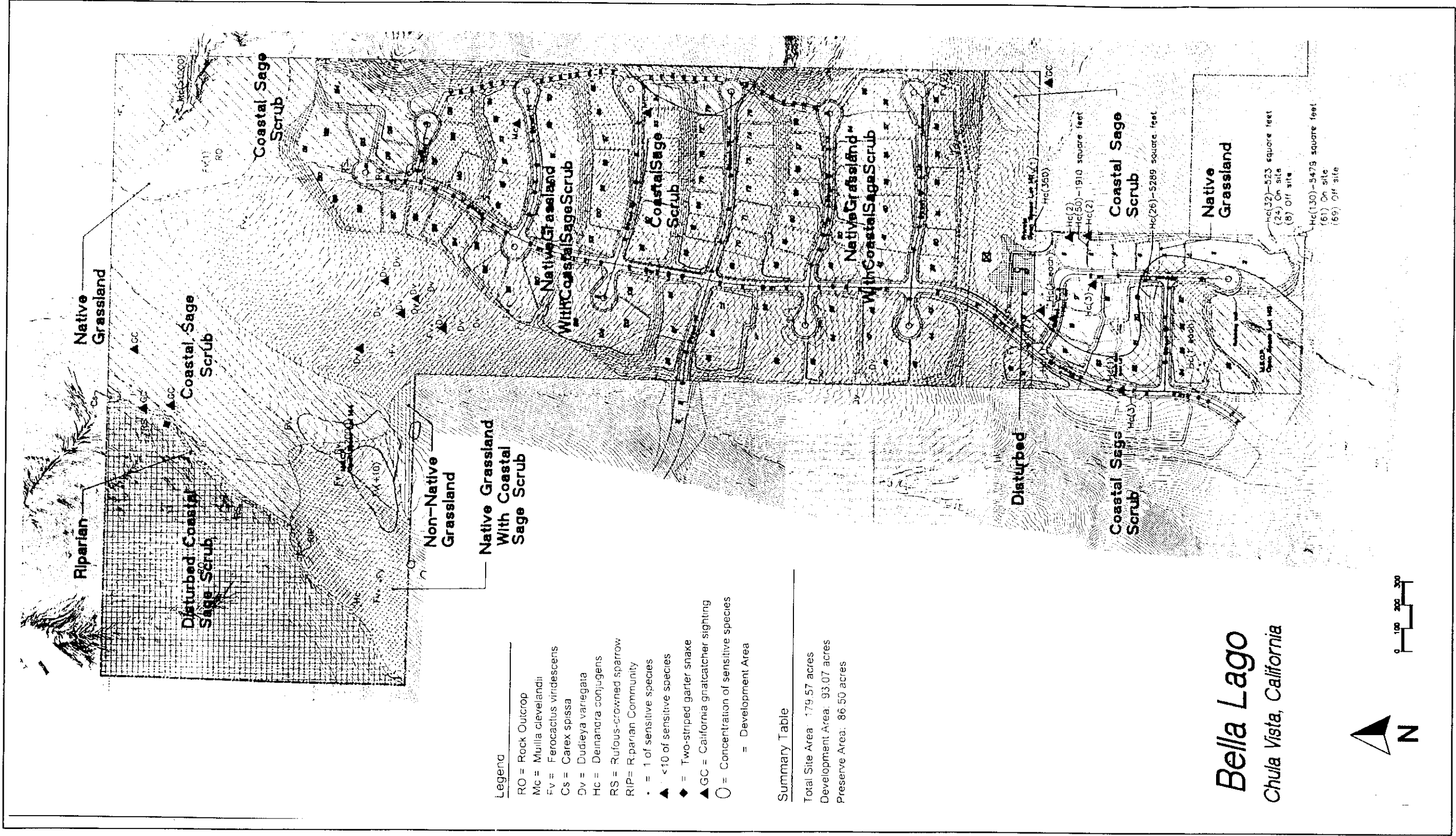
According to the *Biological Resources Report* (updated August 2002) for the Bella Lago project site, there is a high quality of biological resources within the proposed project site. According to the City's Draft MSCP Subarea Plan, the project area is within a location of mostly "very high" habitat value. The site is also different from much of its surrounding habitat making it an important part of a mixture of different habitats needed when maximizing diversity.

Approximately half of the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project site (93.1 acres) would be developed with 140 single-family residential lots averaging 23,122 square feet in size. In accordance with the CFMZP, the development envelope also includes a 50-foot wide brush management zone located along the perimeter of the development footprint. Figure 4.2-2, *Proposed Development Plan Overlain on Biological Resources*, shows where the expected project impacts would occur, and Table 4.2-3, *Anticipated Project Impacts*, describes the expected project impacts on each habitat type.

TABLE 4.2-3  
ANTICIPATED PROJECT IMPACTS

Habitat Type	Number of Acres On-Site	Number of Acres Impacted	Number of Acres Preserved
Native Grassland/Coastal Sage Scrub	101.7	67.5	34.2
Native Grassland	7.9	7.3	0.6
Coastal Sage Scrub	47.2	17.9	29.3
Disturbed Coastal Sage Scrub	20.2	0.0	20.2
Riparian	0.8	0.0	0.8
Non-native grassland	1.0	0	1.0
Disturbed	0.8	0.4	0.4
<b>Total</b>	<b>179.6</b>	<b>93.1</b>	<b>86.5</b>

As shown, several sensitive species are located within the project site area. The majority of project impacts would affect the native grassland/coastal sage scrub (67.5 acres) and coastal sage scrub (17.9 acres) habitats, which are considered sensitive habitats. The regional decline of native grasslands makes the abundance of native grassland on this site an important resource. The project would also result in the loss of other significant resources and sensitive species including a few variegated dudleya, some San Diego goldenstar individuals, ten coast barrel cactus, and 105 Otay tarplants (19 percent of the on-site population). In accordance with agreements with the resource agencies for Bella Lago, the impact to Otay tarplants has been restricted to less than 20 percent.



Source: Biological Resources Report Bella Lao Chula Vista, California

The property is located in the vicinity of a known golden eagle nesting site. However, development of the property would not encroach within 4,000 feet of the golden eagle nest and is not considered to result in a significant impact to this species. Development of the project would reduce foraging and nesting habitat (i.e., coastal sage scrub) for the other bird species identified within the project, including the California gnatcatcher. As identified above, the loss of this habitat would be considered a significant impact.

The remaining, undeveloped portion of the project site (86.5 acres) would be conserved as open space in accordance with the City's Draft MSCP Subarea Plan and agreements with the wildlife agencies. This biological open space would add to the Preserve, providing a large area for wildlife movement and habitat connectivity. Habitats to be preserved onsite include 34.2 acres of native grassland/coastal sage scrub, 0.6 acre of native grassland, 29.3 acres of coastal sage scrub, 20.2 acres of disturbed coastal sage scrub, 0.8 acre of riparian habitat, and 1.0 acre of non-native grassland. The biological open space would be conveyed in fee title or other acceptable means to the City and managed in perpetuity by the City or third party management entity acceptable to the City and the wildlife agencies. A conservation easement or other appropriate restriction would ensure long-term preservation of the site. The biological open space on the property is being considered for eventual inclusion in the San Diego National Wildlife Refuge.

Development of the project is located adjacent to the Preserve and could result in significant adjacency impacts including lighting, drainage, noise, and invasive species impacts. Lighting located along the perimeter of the development area could affect sensitive species located adjacent to the development. Drainage and urban runoff generated from the development could impact sensitive species residing in the Preserve by increasing erosion and introducing urban toxins including petroleum products, invasive plant materials, and/or urban chemicals. Construction noise generated by the project if clearing, grading, or grubbing is implemented during the breeding season of the California gnatcatcher (March 1 to August 15) has the potential to generate noise levels exceeding 60 CNEL, which could impact California gnatcatcher located in the Preserve and adjacent to the development area. Invasive plant materials located along the perimeter of the development and adjacent to the Preserve could introduce plant species that have the potential to displace native species located within the Preserve and could potentially create a significant impact.

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

Impacts to biological resources associated with the approved Rolling Hills Ranch project have been evaluated in the Salt Creek Ranch Final and Supplemental EIRs (SCH #89092721) and addressed in the Section 7 Consultation, Biological Opinion 1-5-00-F-F-28 and the City's MSCP Draft Subarea Plan. Rolling Hills Ranch is a "Covered Project" under the Draft Subarea Plan with the following conditions of coverage:

1. Selective (or phased) grading shall be required and enforced, i.e., only areas immediately subject to development should be graded.
2. In the event that a fire or fuel break is deemed necessary, plant species used in this area shall be non-invasive.
3. Native plants in riparian and/or natural areas shall not be trimmed or cleared for aesthetic purposes.
4. Revegetation of cut slopes external and/or adjacent to natural open space shall be accomplished with native plant species, which presently occur on-site or are typical for the area.
5. Fencing shall be installed around the natural open space area to prevent impacts to biological resources from domestic pets and human activity. An alternative would be the planting of native barrier plant species that would discourage pedestrian and pet activity into open space areas.
6. Area-specific management directives (ASMDs) will be prepared and funding for implementation provided

by the developer prior to issuance of a grading permit for any portion of Subarea III.

#### **4.2.4 Level of Significance Before Mitigation**

##### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would impact sensitive habitat, including coastal sage scrub and purple needlegrass, and wildlife species, specifically variegated dudleya, San Diego goldenstar, coast barrel cactus, and the Otay tarplant, which would be considered significant impacts. These specific impacts are summarized below.

- ◆ The proposed project will result in significant impacts to sensitive species, including native grassland and coastal sage scrub habitats, variegated dudleya, San Diego goldenstar, barrel cactus, and Otay tarplants.
- ◆ The proposed project may result in significant adjacency lighting, noise, drainage, and invasive species impacts to the Preserve.

##### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

Under this scenario, in addition to impact to biological resources within the Bella Lago property identified above, the Bella Lago project would impact coastal sage scrub, native grassland, disturbed grassland, wetlands, and wildlife species in the off-site area where access would be provided to serve Bella Lago. These would be considered significant impacts to biological resources.

#### **4.2.5 Mitigation Measures**

##### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

The applicant has consulted with the USFWS, the CDFG, and the City of Chula Vista to develop an acceptable mitigation plan for project impacts, sufficient to qualify the project as a "Covered Project" under the Draft MSCP Subarea Plan. The Bella Lago project shall be considered a "Covered Project" in the City's Subarea Plan, provided the following mitigation measures are implemented.

*Measure 4.2a Direct impacts to sensitive habitat and wildlife species associated with the project would be lessened to below a level of significance with the implementation of the following mitigation measures.*

- ◆ *Prior to the issuance of the first Final Map, the developer shall preserve on-site a total of 86.5 acres of on-site biological open space, which includes areas with populations of Otay tarplant, San Diego goldenstars and barrel cactus. In addition to preservation of the on-site biological open space, the applicant shall purchase 2.5 acres of habitat in Johnson Canyon or comparable area to be approved by the City of Chula Vista and the wildlife agencies. The proposed mitigation site includes a large population of Otay tarplant, a narrow endemic. This will bring the project's open space total to 89 acres.*

- ◆ *Prior to issuance of first Final Map, the developer shall also limit its encroachment into the Otay tarplant at 19 percent; a 20 percent encroachment is acceptable. The project shall mitigate the loss by the purchase of off-site habitat twice the area of impact. The applicant has agreed to purchase approximately 15,000 square feet of habitat in Johnson Canyon, which supports large populations of Otay tarplants.*

*Measure 4.2b Adjacency impacts associated with the project would be lessened to below a level of significance with the implementation of the following mitigation measures.*

- ◆ *Development within the Bella Lago boundaries shall follow adjacency guidelines (MSCP Section 7.5.2 of the October 2002 draft of the Chula Vista Subarea Plan), including providing for:*
  - a) *Prior to the issuance of the first Building Permit, as identified by the Tentative Map for the Bella Lago project, a six-foot, solid block masonry wall or other barrier as approved by the Chula Vista Fire Marshal shall be constructed for adequate fire management in the eastern and southern boundaries of the Clarkson/Turner properties where the tarplant is to be preserved.*
  - b) *Prior to the issuance of the first Building Permit, as identified by the Tentative Map for the Bella Lago project the block wall shall be constructed to be located no closer than 25 feet from the nearest Otay tarplant. No developed area, including non-native landscaping, will be closer than 25 feet from the nearest Otay tarplant, which is being avoided.*
  - c) *Prior to issuance of the first Grading Permit, in accordance with the Tentative Map, the developer shall demonstrate to the satisfaction of the Environmental Review Coordinator that project lighting will be directed away from the preserve.*
  - d) *Prior to issuance of the first Grading Permit, in accordance with the Tentative Map, the developer shall demonstrate to the satisfaction of the Environmental Review Coordinator that project runoff will be directed away from the preserve to the greatest extent possible.*
  - e) *Prior to issuance of the first Grading Permit, the developer shall demonstrate to the satisfaction of the Environmental Review Coordinator how the project will observe seasonal restrictions on grading (as required by the wildlife agencies) to avoid noise impacts to nesting birds, and the project shall incorporate noise-reduction measures during project construction.*
  - f) *Prior to issuance of the first Grading Permit, the developer shall demonstrate to the satisfaction of the Environmental Review Coordinator how the project will direct human access to the preserve away from the Otay tarplant and variegated dudleya locations. The project shall designate trails along the existing road. Other than preserve managers, the project shall not allow any public/private access into the preserve areas from the Clarkson/Turner properties without the concurrence of the wildlife agencies.*



- ◆ *Prior to issuance of the first Building Permit and the first Grading Permit, the developer shall demonstrate to the satisfaction of the Environmental Review Coordinator compliance with the City's Quino checkerspot butterfly habitat restoration efforts outlined in Section 7.4.3.2 of the City's draft MSCP Subarea Plan.*
- ◆ *Area Specific Management Directives (ASMDs) for Bella Lago have been developed in accordance with the City's draft MSCP Subarea Plan and shall be incorporated into the development of Bella Lago. The ASMDs are included as Appendix N to this EIR and are summarized as follows. Prior to issuance of the first Building Permit, the developer shall demonstrate compliance with the following mitigation measures:*

1. *Establishment of Preserve: Short-Term/Construction Management and Implementation of Project Conditions of Coverage*

*During this initial phase of management, the developer shall preserve establishment by handling it as a private site improvement requirement. The developer would be fully responsible for funding any required walling/fencing, signage and other maintenance work required to establish a defensible biological preserve. Work would be completed through private contracting. Any contractors utilized during the preserve establishment phase will be approved by the City of Chula Vista. Minimum qualifications of the biological monitor shall be those of a biological consulting firm on the City of Chula Vista's approved list. Work associated with the preserve establishment phase would be bonded as determined necessary by the City. The bonds will be released upon fulfillment of work under, as determined by the City. Costs for the completion of the preserve establishment period work are outlined in the ASMDs. Management elements proposed during the establishment of Preserve phase include Project specific Conditions of Coverage, as described above and outlined in Section D of the ASMDs.*

2. *Long-term Management Phase*

*This phase is marked by the completion of adjacent construction and finalization of all establishment management elements (as defined above), including conveyance of preserve areas to the city or other appropriate management entity. Long-term management elements for the preserve areas include the following:*

- a. *Access controls.*
- b. *Invasive species control.*
- c. *Resident Outreach/Information Dissemination.*
- d. *Trash/Litter removal.*
- e. *Trails.*
- f. *Annual Assessment of Preserve Habitat Value.*

*Long-term perpetual management of the preserve area will be financed through establishment of an endowment fund to generate a regular revenue*

*stream for management use by a managing agency or organization to address the long-term management needs of the preserve. Bella Lago proposed to fund the maintenance of the preserve open space by posting a one-time deposit to a perpetual endowment or City trust account that will generate income similar to the \$55/acre/year amount specified in the Chula Vista MSCP Subarea Plan. Funding for the long-term management of the preserve will be established prior to issuance of grading permits for the residential development.*

3. *Species-Specific Management Directives*

*The Bella Lago project shall follow the directives for certain covered species, as identified in Table 4 of the ASMDs (see Appendix N).*

No further mitigation is required for sensitive habitats and MSCP covered species, and all project impacts would be reduced to below level of significance with implementation of the mitigation measures presented above.

***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

In addition to the mitigation measures identified above, the following measure would be required if Bella Lago develops prior to Rolling Hills Ranch:

*Measure 4.2c: Prior to issuance of grading permit for any portion of Rolling Hills Ranch Subarea III, the developer shall prepare ASMDs and provide funding for their implementation.*

**4.2.6 Level of Significance After Mitigation**

***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

Implementation of the above recommended mitigation measures, including on-site preservation/restoration, off-site acquisition of replacement habitat, and measures directed at minimizing adjacency issues, would mitigate significant impacts to less than significant levels.

***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

The mitigation measures identified above, including on-site preservation/restoration, off-site acquisition of replacement habitat, measures directed at minimizing adjacency issues, and preparation of ASMDs for Rolling Hills Ranch Subarea III, would mitigate significant impacts on biological resources to below a level of significance.

### 4.3 LANDFORM ALTERATION/AESTHETICS

A visual study titled *Bella Lago Graphics for Visual Study* was prepared by *Estrada Land Planning* on September 5, 2002, to anticipate changes to views of the project site from surrounding public roadways. The proposed Bella Lago project was visually analyzed to display the difference between the views of the site before development, the anticipated views of the site after grading, and the anticipated views of the site after development has occurred.

#### 4.3.1 Existing Conditions

##### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project site is located in the northeastern portion of the Eastern Territories Planning Area in the City of Chula Vista (see Figure 2-2, *Eastern Territories Area*). The project site is a currently undeveloped piece of land located east of I-805, south of San Miguel Mountain, and northwest of Upper Otay Reservoir. The property is situated on approximately 180 acres adjacent to the eastern boundary of Neighborhoods 10B and 11 of the approved Rolling Hills Ranch residential development project (see Figure 2-2).

The project site is an inverted, L-shaped parcel of land located in the foothills of San Miguel Mountain (see Figure 2-5, *Aerial Photograph*). Topographically, the site consists primarily of gently rolling hills, with steeper slopes located in the northern and eastern portions of the project site. Elevations on-site range from approximately 670 feet AMSL to approximately 1,170 feet AMSL. The naturally occurring slopes on the project site are in excess of 60 feet. Slopes in excess of a 25 percent grade occur along the eastern boundary of the project site within the development footprint. Naturally occurring slopes along this boundary are steep in nature, with the steepest having an approximately 37 percent grade. Figure 2-4, *Existing Topography*, depicts the existing topography of the project site.

As stated previously, the project site is currently undeveloped and generally undisturbed. No improved roads run through the site. Native vegetation is present on the project site (see Section 4.2, *Biological Resources*). Additionally, an SDG&E utility easement with overhead power lines traverses the site in an east to west fashion. Areas immediately surrounding the project site are undeveloped, as well. However, Rolling Hills Ranch, adjacent to the western boundary of the project site, is an approved development project which will result in the construction of single family homes in the future. The lands to the north, east and south of the project site are designated Preserve lands under the City's Draft MSCP Subarea Plan or County's MSCP Subarea Plan, and no development is expected to occur in these areas.

To illustrate the existing conditions of the property, a series of photographs have been taken from various locations. These photographs provide a visual inventory of the property's existing visual quality, as described below.

##### **View A: Southern Portion of Project Site Looking North**

*View A: Southern Portion of Project Site Looking North*, shown in Figure 4.3-1, shows the view from the southern boundary looking north towards the project site. From this view, the property is relatively flat, gently sloping upwards, with San Miguel Mountain rising up in the northern portion.





Southern Portion of Project Site Looking North

Figure 4.3-1  
View A

**View B: Western Portion of Project Site Looking East**

*View B: Western Portion of Project Site Looking East*, shown in Figure 4.3-2, shows the view from the western boundary looking east towards the project site. This view shows the property as relatively flat, gently sloping upwards towards the northeast portion of the site. Low-lying vegetation is seen in the foreground of the picture, and a mountain is seen in the distance. Tire tracks and informal roadways are also identifiable within the photograph.

**View C: Eastern Portion of Project Site Looking South**

*View C: Eastern Portion of Project Site Looking South*, shown in Figure 4.3-3, shows the southern portion of the project site. The site slopes downward to the east and the south until it becomes relatively flat in the distance. The land is undeveloped, with low, scrubby vegetation covering it. A transmission tower associated with the SDG&E utility easement can be seen in the distance. Distant views of a mountain and Upper Otay Lake can be seen from this location, as well as a graded area west of the lake.

**View D: Southern Portion of Project Site Looking Northwest**

*View D: Southern Portion of Project Site Looking Northwest*, shown in Figure 4.3-4, shows the western portion of the project site. The lower portion of the site is relatively flat, with mountains rising up in the more northerly area. As shown, the project site and adjacent areas are undeveloped.

***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

The existing conditions for the project site under this scenario would be the same as those described above. In addition, existing conditions for the off-site area that would be affected under this scenario must be addressed.

Currently, a portion of the Rolling Hills Ranch project area is developed; however, the eastern portion of the site, which is adjacent to the Bella Lago property, is undeveloped. As stated in the EIR certified for the Rolling Hills Ranch project (Salt Creek Ranch Final and Supplemental EIRs, SCH #89092721), the entire Rolling Hills Ranch project area ranges in elevation from 500 feet AMSL in the western portion of the site to 1,100 feet AMSL in the northern portion of the site. Some of the steepest portions of the site occur in the northeastern area. The eastern portion of the site is also characterized by a narrow south-trending ridge. The site drains towards the Upper Otay Reservoir, southeast of the site.

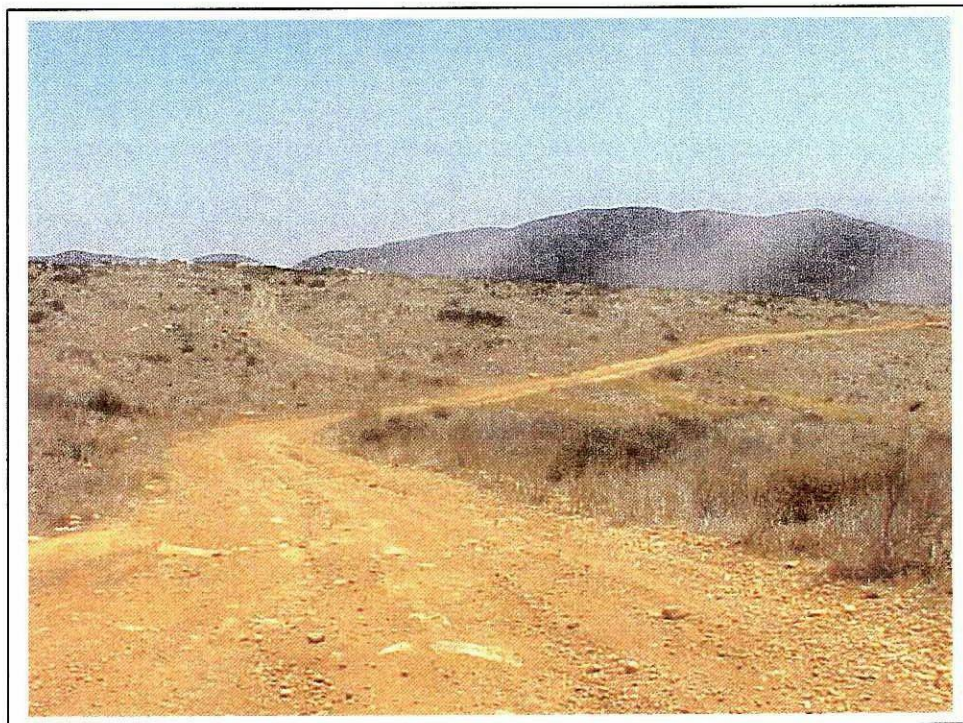
**4.3.2 Threshold of Significance**

The proposed project would have a significant impact on landforms if it would change the topography of ground surface relief features.

According to Appendix G of the CEQA Guidelines, a proposed project could have a significant impact on aesthetics if it would:

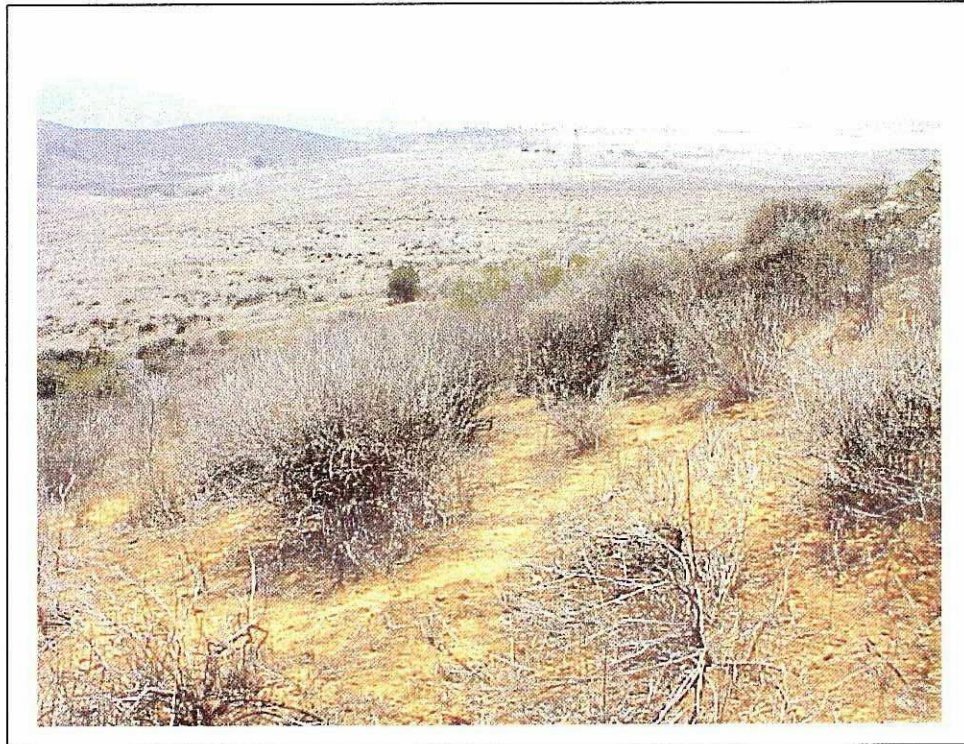
- ◆ Substantially impact a scenic vista;
- ◆ Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;





Western Portion of Project Site Looking East

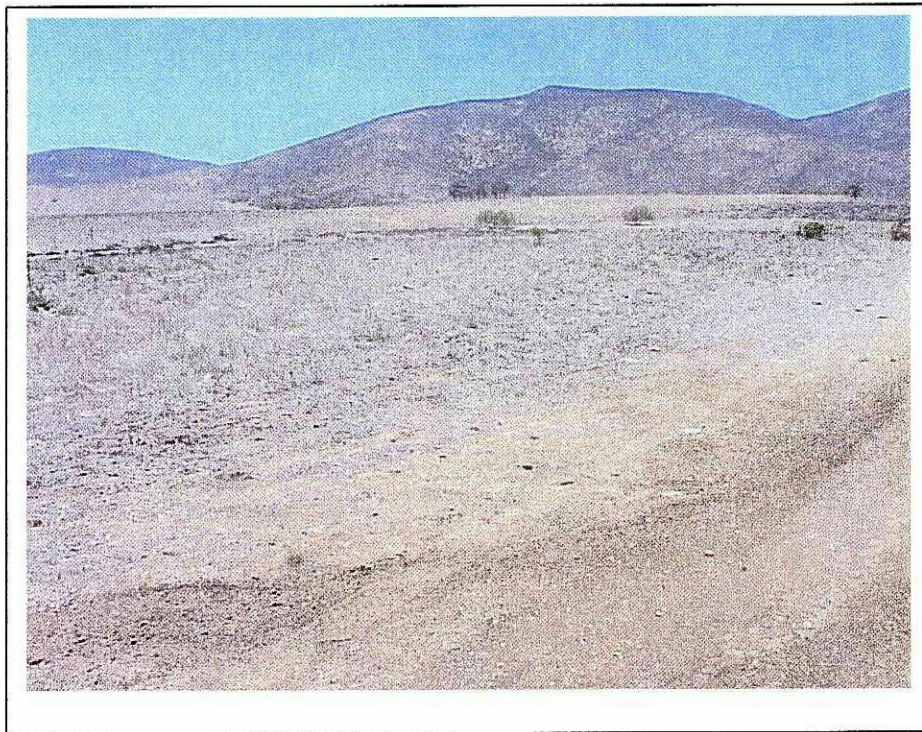
Figure 4.3-2  
View B



Eastern Portion of Project Site Looking South

Figure 4.3-3  
View C





Southern Portion of Project Site Looking Northwest

Figure 4.3-4  
View D

- ◆ Substantially degrade the existing visual character or quality of the site and its surroundings;
- ◆ Introduce a new source of substantial light or glare that adversely affects day or nighttime views in the area; or
- ◆ Result in architecture, urban design, landscaping, and/or landforms that negatively detract from the prevailing aesthetic character of the site or surrounding area.

#### **4.3.3 Impact Analysis**

##### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

The proposed Bella Lago project would introduce new development within the Eastern Territories area of the City of Chula Vista, consistent with the City's General Plan. The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project proposes the development of 140 large residences on estate lots and landscaping. Located adjacent to the eastern boundary of the approved Rolling Hills Ranch development project, and northeast of the EastLake Planned Community and Otay Ranch, the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would be a continuation of approved and existing development in the area. Similar to the surrounding developments, the Bella Lago project would involve alteration to natural landforms and would change views of the project site as discussed below.

#### **Landform Alteration**

To accommodate the proposed development of 140 single family residences, grading would occur on the portion of the property to be developed. Development of the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would result in the grading of approximately half of the site (93.1 acres), involving 600,000 cubic yards (cy) of earthwork, or 6,452 cy per acre. The grading plan would provide for a gently sloping development area in the southern portion of the project site and would create manufactured slopes located around the perimeter of the site. These slopes would range in height up to 79 feet. Retaining walls would be provided where necessary.

The portion of the project site proposed for development is characterized by gently sloping terrain, with steeper slopes located along the eastern portion of the site. Steeper slopes within the project site are also associated with San Miguel Mountain in the northern portion of the site. Two steep slopes (with a slope gradient greater than 25 percent) are located along the eastern portion of the site, within the development footprint. These slopes would be graded as part of the project, but would remain as steep slopes similar to their natural configuration. The undeveloped portion of the site would remain in its natural state as Preserve lands, and no impacts to landforms in this area would occur.

Grading activities associated with the development of Bella Lago would result in a substantial and permanent alteration of the site's existing natural topography. However, grading of the site would generally follow the natural, gently sloping topography of the developable portion of the site, reducing the project's impact to landform. Building pads are proposed to be terraced up the hillside, following the existing contours of the site, replacing the natural topography with a graded, manufactured landform. Development would occur on approximately half (93.1 acres) of the project site, leaving more than 86.5 acres in natural open space, maintaining the native topography in that area. Additionally, the General Plan anticipates that grading would occur on the site in order to accommodate the designated Residential Low land use. The project would appear as an extension of the adjacent Rolling Hills Ranch. Grading and development of Bella

Lago, once completed, would not be discernable to off-site views. For these reasons, impacts to landform would not be considered significant.

Approximately 600,000 cy of cut and fill needed for development of Bella Lago are proposed to be balanced on site. The proposed project would include appropriate grading techniques, erosion control measures, and landscaping so that runoff, sedimentation, and erosion would be controlled both during and after construction. The project would also be required to implement Best Management Practices for stormwater discharge (see Section 4.8, *Hydrology/Drainage/Water Quality*) to control runoff, minimize erosion, and limit the project's contribution of urban pollutants to sensitive water bodies.

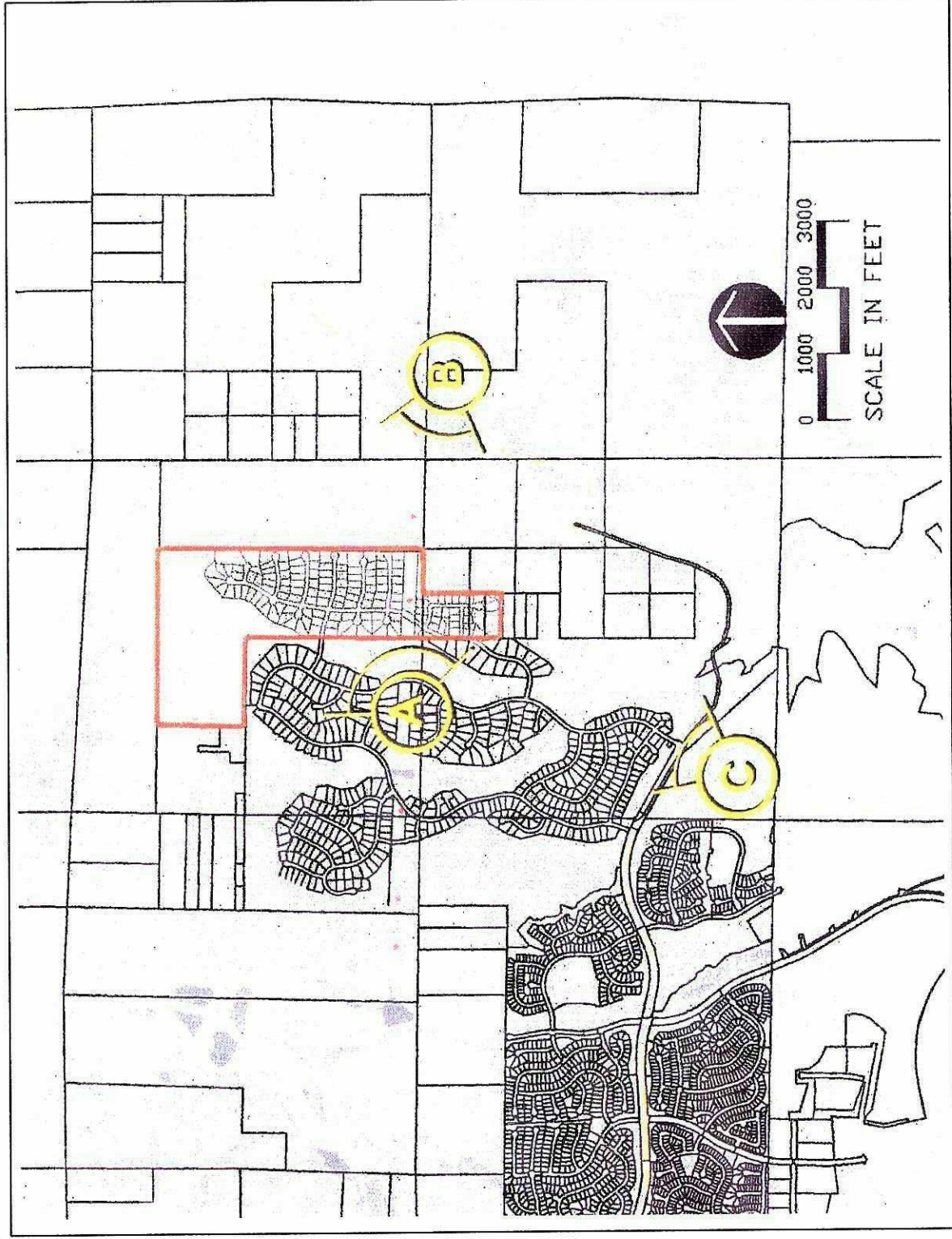
### Aesthetics

The proposed project would occupy approximately half (93.1 acres) of the approximately 180-acre site, which would be covered by structures, hardscape, and landscaping. As discussed above, development of Bella Lago would alter the natural landform of the site. To determine the impact that implementation of the proposed project would have on visual quality, a visual study titled *Bella Lago Graphics for Visual Study* was prepared by *Estrada Land Planning* on September 5, 2002. The proposed Bella Lago project was visually analyzed from surrounding public roadways and park areas to display the difference between the views of the site before development, the anticipated views of the site after grading, and the anticipated views of the site after development has occurs. The study analyzed the project site from seven different viewpoints; however, only three of the viewpoints would be affected by development of the proposed project. Figure 4.3-5, *Viewpoint Locations*, shows the locations of each view indicated as A, B, and C. A summary of the views at these locations is provided below.

**View A** is approximately 500 feet west of the southern portion of the project site, looking northeast, and is within the area proposed for development by the approved Rolling Hills Ranch project. The existing view from View A is an uphill view of natural vegetation, a dirt road and overhead power lines that travel in an east to west fashion, and rolling hills in the background. As shown by Figure 4.3-6, *View Location A*, after grading for the proposed project would occur, the graded areas would be visible at the top of the hill. After the development of the single-family residential units would occur, the view from View A would be of the single-family residential structures, rooftops, grass and other landscaping. Natural vegetation, the overhead power lines, and the distant views of the rolling hills would remain visible.

**View B** is approximately 2,700 feet east of the southern portion of the project site, looking northwest. The existing view from View B consists of an uphill slope of natural vegetation and overhead power lines that travel in an east to west fashion. Dirt roads located south of the project site are also visible from this view. After grading activities would occur, limited portion of the graded areas would be visible at the hilltop north of the power lines. After the development of the single-family residential units, the view from View B would be of the single-family residential structures, rooftops, and landscaping (see Figure 4.3-7, *View Location B*). Natural vegetation, the overhead power lines, and the dirt roads would still be visible.





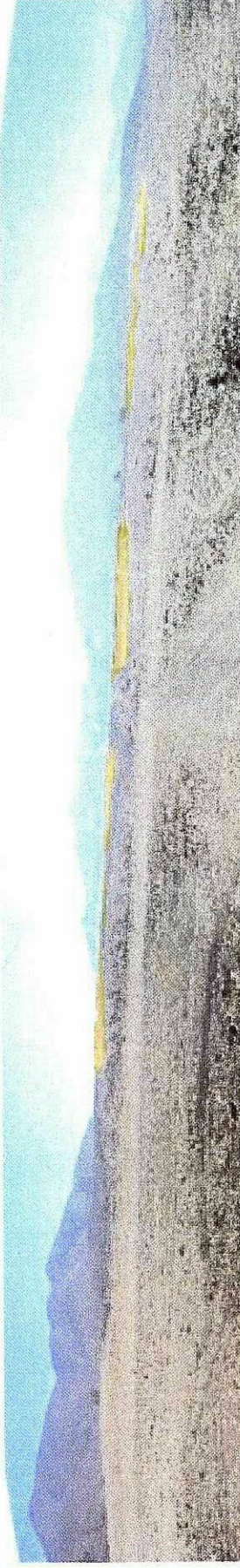
Source: Estrada Land Planning

Figure 4.3-5  
Viewpoint Locations





Existing View



Simulated View

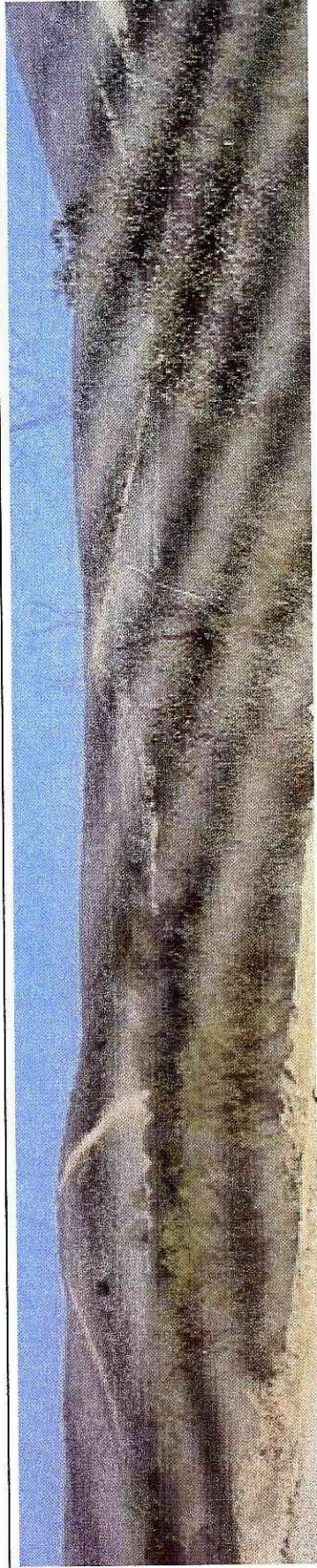


Simulated View- Development

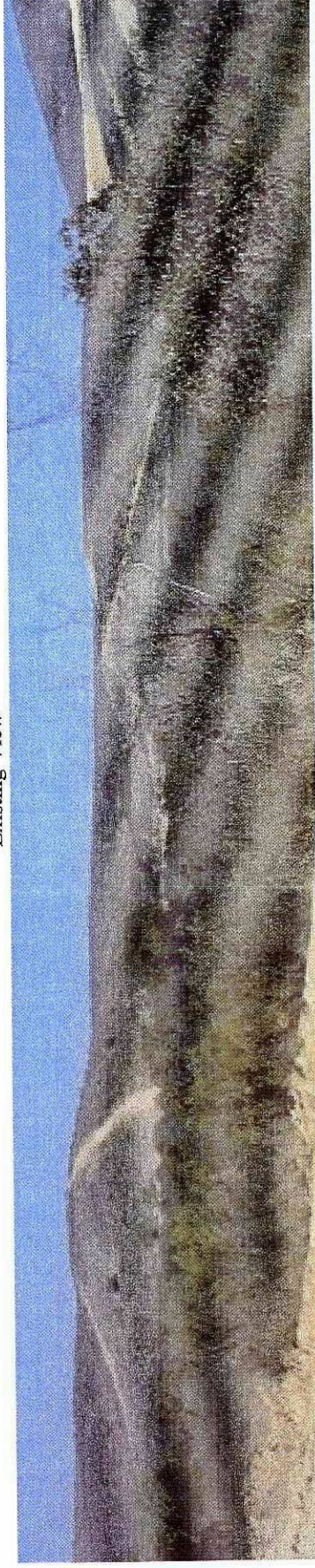
Source: Estrada Land Planning

Figure 4.3-6  
View Location A





Existing View



Simulated View - Grading



Simulated View - Development

Source: Estrada Land Planning

Figure 4.3-7  
View Location B

Page 4.3-11



*View C* is approximately 3,300 feet south of the project site, looking northeast. The existing view from *View C* consists of an uphill slope of natural vegetation, eucalyptus trees and rolling hills in the background. Views of the foreground include a paved roadway and graded areas for an adjacent development. After grading activities for Bella Lago occur, the graded areas would be visible at the hilltop. After the development of the single-family residential units, the view from *View C* would be of the single-family residential structures and landscaping (see Figure 4.3-8, *View Location C*). Natural vegetation, eucalyptus trees, and rolling hills would still be visible.

Due to the rolling topography of the project site and the distance of public roadways from the site, visual impacts resulting from the development of Bella Lago would not be significant. Furthermore, when the adjacent Neighborhoods 10B and 11 of the approved Rolling Hills Ranch are developed, which is expected to occur prior to development of Bella Lago, the proposed project would appear as an extension of residential development rather than a developed community amongst undeveloped lands.

Open space areas are proposed for the remaining half (86.5 acres) of the project site, located north of the developed portion. These areas would remain undisturbed and comprise a portion of the City's Preserve lands. No visual impact of these lands would occur. Views from these lands would be impacted from the development proposed for Bella Lago; however, the Preserve lands would not be open to the public. Impacts on views from these lands are not considered significant.

The Bella Lago Precise Plan includes a chapter on design guidelines for the residential planning areas of Bella Lago. Guidelines are provided for both architecture and landscape architecture. The architectural concept for Bella Lago is to encourage the use of individual architecture styles, while maintaining similar design characteristics such as mass, form and color to ensure a quality project. The landscape architectural guidelines would establish a unifying landscape concept that would establish the character of Bella Lago. Scenic vistas of the Otay Reservoir, Mexico, and the Pacific Ocean from the project site would be emphasized, as well as the site's natural features. The design guidelines, while altering the existing aesthetic characteristics of Bella Lago, would blend with the adjacent native areas and enhance the visual quality of the development project.

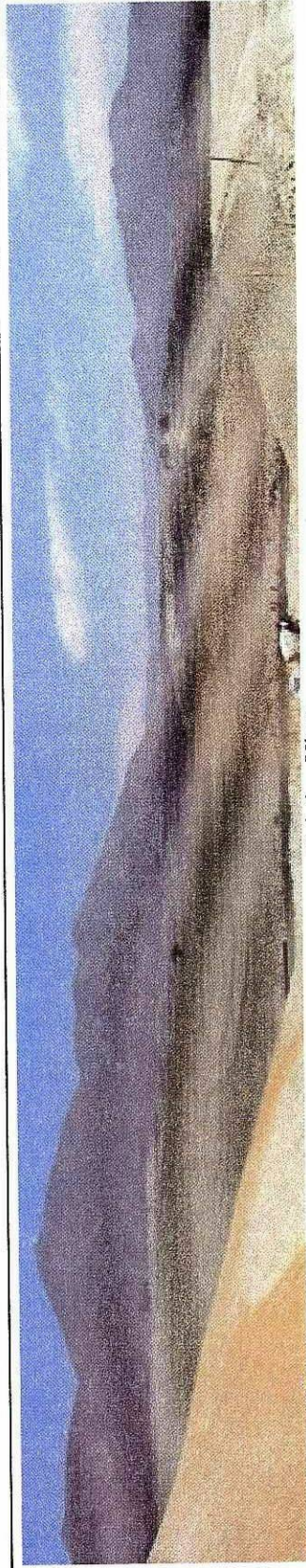
Implementation of the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would also introduce lighting sources to the developed portion of the project site. All lighting would comply with the City's lighting regulations, and no significant impact would occur. Nighttime views of the site would change due to the introduced lighting sources. However, compliance with the City's standards would ensure no significant impact on the adjacent Preserve would occur.

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

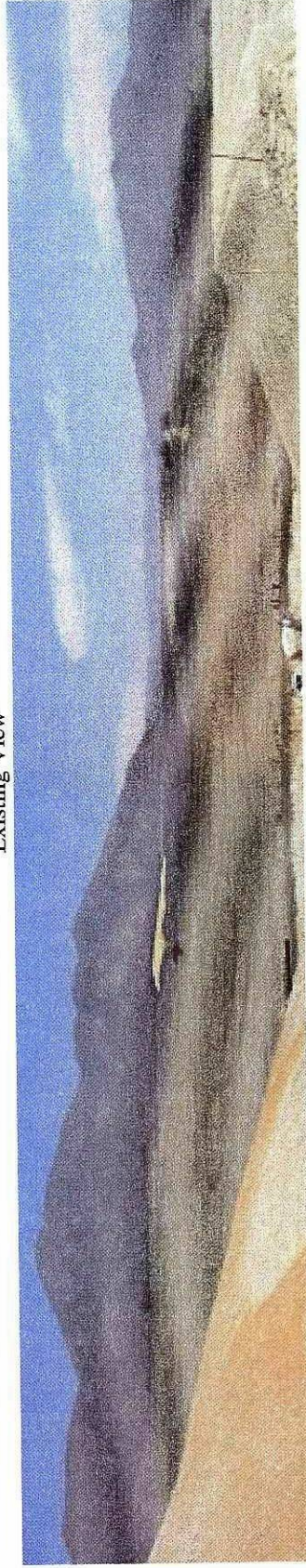
#### **Landform Alteration**

If Bella Lago developed prior to Subarea III of the approved Rolling Hills Ranch project, additional grading activities associated with off-site improvements necessary to serve would occur. The off-site area is currently undeveloped; therefore, impacts to the natural landform of that area would occur due to the grading activities associated with construction of roadway infrastructure to serve Bella Lago. According to the Final and Supplemental EIRs for Salt Creek Ranch (SCH #89092721), grading within Subarea III, which includes an area where off-site improvements for Bella Lago would occur, has been designed to

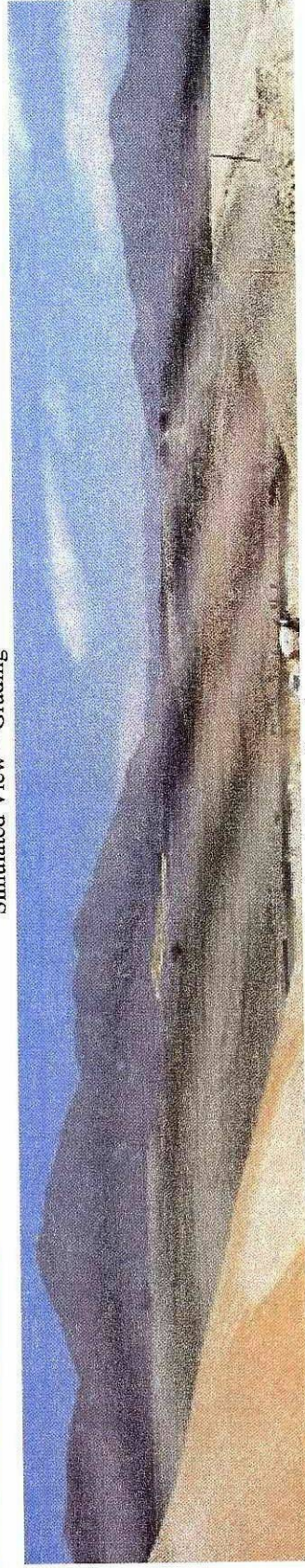




Existing View



Simulated View - Grading



Simulated View - Development

Source: Estrada Land Planning



preserve existing areas of 25 percent slope. For the construction of roadways in this area, manufactured slopes would be created. The slopes would be revegetated with coastal sage scrub habitat in accordance with the Habitat Enhancement Plan for Rolling Hills Ranch, and variable slope gradients of 5:1, 4:1, and 3:1 would be incorporated throughout the area.

Landform alteration resulting from the grading of the Bella Lago site, if it occurred prior to the development of Subarea III, would be more pronounced and significant because it would stand alone, surrounded by undeveloped land. However, this would be an interim condition until Rolling Hills Ranch develops. At that time, the landform alteration associated with Bella Lago would blend into that approved for Rolling Hills Ranch.

Landform alteration associated with the approved Rolling Hills Ranch project was evaluated in the Salt Creek Ranch Final and Supplemental EIRs (SCH #89092721). The EIRs found this impact to be significant because the rural, gently sloping landscapes would be replaced by structures, urban hardscape, and various open space and recreational uses. Therefore, mitigation measures would be required under this scenario.

## **Aesthetics**

Development of Bella Lago, including the area where off-site improvements for Bella Lago could occur, would permanently alter the visual character of the site from a natural landscape to manufactured slopes, structures, roadways and various open space areas. In addition, the alteration of landform discussed above would also change the visual character of the site. With existing development occurring to the west and south of the off-site area, and the development of Bella Lago to the east, the off-site area would be surrounded by developed areas on three sides, which would lessen visual impacts. Development of Bella Lago and the off-site area would appear as an extension of existing development. As with the visual impacts within the Bella Lago project site, the visual impacts in the off-site area have been anticipated by the City's General Plan as well as the prior approval of the Rolling Hills Ranch development project. While impacts on visual character would occur, the impacts are not considered significant.

### **4.3.4 Level of Significance Before Mitigation**

#### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

Implementation of the Bella Lago project would alter the project site's natural landform and affect views of the project site. Grading would generally follow the site's natural landform. Building pads would terrace up the hillside, following the site's existing contours. Development would be limited to 93.1 acres of the project site, preserving 86.5 acres as undisturbed open space. Development would be viewed as an extension of planned development adjacent to the site within Rolling Hills Ranch. These changes to the project site have been anticipated under the land use designation it was given in the City's General Plan. For these reasons, impacts to landform alteration and aesthetics are considered less than significant.

#### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

Development of Bella Lago and construction of the roadways off-site would alter the natural landform and affect views of the project site and off-site area. These changes were anticipated under the land use designations given to these sites in the City's General Plan. Grading within Rolling Hills Ranch including that required for off-site improvements necessary to serve Bella Lago if Bella Lago develops prior to Rolling

Hills Ranch has been determined to be significant in the Salt Creek Ranch Final and Supplemental EIRs.

#### **4.3.5 Mitigation Measures**

##### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

Because the anticipated impacts to landform and aesthetics are less than significant, no mitigation measures are required.

##### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

The following mitigation measure is required under this scenario:

*Measure 4.3a                      The grading plan shall incorporate landform grading sensitive to existing topography to the extent feasible and acceptable to the City Planning Department along major streets, such as those which would be required to serve Bella Lago. Techniques used to blend graded areas to natural landforms shall include slope rounding, obscuring slope drainage structures by massing plant materials, landform grading on large slope bands, and use of planting materials to control erosion.*

#### **4.3.6 Level of Significance After Mitigation**

##### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

No significant impacts to landform alteration or aesthetics are associated with the proposed project.

##### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

With incorporation of the mitigation measure identified above, no significant impacts to landform alteration or aesthetics would be associated with the proposed project under this scenario.

## 4.4 NOISE

The analysis presented in this section is based on a noise analysis titled *Noise Impact Analysis*, prepared by *Giroux & Associates* on June 24, 2002. A copy of the *Noise Impact Analysis* is provided in Appendix C of this EIR.

### 4.4.1 Existing Conditions

#### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

Noise is generally defined as unwanted sound. Airborne sound is a small scale fluctuation of instantaneous air pressure above and below the local barometric pressure. Sound levels are usually measured and expressed in decibels (dB). Most of the sounds which we hear in the environment do not consist of a single frequency, but rather a mixture of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate sound. The method commonly used to quantify environmental sounds consists of evaluating all of the frequencies of a sound in accordance with a weighting system that reflects the decreased sensitivity of human hearing at low frequencies and at extremely high frequencies relative to the mid-range frequencies. This is called "A" weighting and the decibel level measured is called the A-weighted sound level (dBA). In practice, the level of a sound source is conveniently measured using a sound level meter that includes a filter corresponding to the dBA curve.

Although the A-weighted sound level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a mixture of noises from distant sources which create a relatively steady background noise in which no particular source is identifiable, often with a variable local signal superimposed upon the background. To describe the time-varying character of environmental noise, the statistical noise descriptors L10, L50 and L90 are commonly used. They are the noise levels equaled or exceeded during 10 percent, 50 percent, and 90 percent of a stated period of time. A single descriptor called the equivalent sound level (LEQ) is also used. LEQ is the energy mean A-weighted sound level during a stated measured time interval.

The State model element contains noise/land use compatibility that uses a noise descriptor that incorporates the varying noise sensitivity of people during a 24-hour period. The descriptor used for such evaluation is called the day-night level (LDN), or the community noise equivalent level (CNEL). LDN is the weighted average sound level for a 24-hour day. It is calculated by adding a 10 decibel penalty to sound levels at night (10 p.m. to 7 a.m.). CNEL further incorporates a 5 decibel penalty from 7 p.m. to 10 p.m. In practice, LDN and CNEL are almost identical and can usually be used interchangeably.

### **Regulatory Background**

Noise criteria for the City of Chula Vista is identified in the City's Noise Control Ordinance (Chula Vista Municipal Code, Chapter 19.68). According to the ordinance, the City of Chula Vista has adopted the National Goals for Noise Reduction as set forth by the U.S. Environmental Protection Agency (EPA) for their noise regulatory criteria. For residential land uses, these criteria establish a maximum noise exposure level of 65 dBA LDN at exterior usable space (yards, patios, porches, etc.) at any residential property. For interior noised levels, the City has established a maximum noise exposure level of 45 dBA. These standards are the relevant noise criteria applied in the City of Chula Vista.

According to the Noise Element of the General Plan, construction noise “*has become increasingly responsible for discomfort in the human environment.*” Noise levels associated with the operation of construction equipment typically ranges between 80 to 90 dBA. Construction is limited by the City’s noise ordinance to daylight hours. In addition, abatement of construction noise will be achieved in part by federal regulations which govern decibel output of various types of equipment.

The City has not developed noise criteria for impacts on wildlife. However, wildlife agencies (i.e., USFWS) use a noise standard of 60 dBA LEQ (peak hour) for avian species protection, which has been used in the *Noise Impact Analysis*.

### **Background Noise**

The project site is located in a currently undeveloped portion of the City. Within the existing rural environment of the project site, baseline noise levels are very low. Noise sources occurring within the project vicinity are traffic and on-going construction of new development. Daytime noise levels at nearby locations, when unaffected by traffic or ongoing construction of new development, are 45 to 50 dBA. At night, background noise is between 35 and 45 dBA. These levels are considered compatible with residential uses. Existing outdoor noise levels in the project vicinity are generally equal to those that would be considered acceptable for noise-sensitive interior uses such as residential bedrooms.

### **Sensitive Receptors**

Noise sensitive receptors are those human activities or land uses which may be disrupted due to a significant interference from noise. Residential units, schools, hospitals, and hotels are examples of sensitive noise receptors. Wildlife is also considered a noise sensitive receptor. Currently, the project site is surrounded by undeveloped land; therefore the following noise sensitive land use has been identified within the project vicinity:

- ◆ Preserve lands adjacent to the north, east, and south sides of the project site.
- ◆ Residents of Neighborhoods 10B and 11 of Rolling Hills Ranch adjacent to the west side of the project site.

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

If Neighborhoods 10B and 11 of the approved Rolling Hills Ranch are developed after the development of Bella Lago, the residences of these neighborhoods would not be considered a sensitive noise receptor during construction of the project. All other existing conditions would remain the same as described above.

#### **4.4.2 Threshold of Significance**

In accordance with noise significance criteria established by Appendix G of the State CEQA Guidelines, U.S. Fish and Wildlife Service, and the City of Chula Vista, a significant impact could occur if the project would:

- ◆ Result in exterior noise levels that exceed 65 CNEL in residential areas and outdoor recreational areas;



- ◆ Result in interior noise levels that exceed 45 dB CNEL for single-family and multi-family residential homes;
- ◆ Result in noise levels that violate the City's Noise Ordinance (Chapter 19.68 of the Municipal Zoning Code);
- ◆ Create a substantial permanent or temporary increase in ambient noise levels in the project vicinity above levels existing without the project; or
- ◆ Generate a one-hour average noise level (Leq) in excess of 60 dBA at the adjacent wildlife habitat during a nesting season.

#### **4.4.3 Impact Analysis**

The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would construct 140 single-family residences on 93.1 acres of land located adjacent to Neighborhoods 10B and 11 of the approved Rolling Hills Ranch development and Preserve lands. Construction of the project site would result in short-term, temporary construction noise. Once the project has been developed, traffic noise sources would be introduced to the area.

#### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

##### **Construction Noise**

Construction of the project site would involve grading activities, rock blasting, and construction of the residential units. These activities are temporary in nature; however, due to a number of newer development projects, construction activity noise has been an on-going phenomenon in the Eastern Territories area of Chula Vista for over a decade.

##### **Grading and Construction Activities**

Noise from construction equipment typically ranges from 70 to 90 dBA at 50 feet from the source. Clearing and grading activities are generally the noisiest sources. Mobility of the grading equipment, and the distance of the buffer between such equipment and the nearest sensitive use, affect the duration and intensity of grading activity noise exposure. The City of Chula Vista limits construction activities to daytime hours from 7 AM to 7 PM Monday through Saturday, which are considered times of lesser noise sensitivity. Generally, construction activity is limited to these hours through conditions placed on grading permits. Construction occurring within this timeframe would be considered to mitigate any short-term noise impacts to below a level of significance.

Finish construction (saws, hammers, etc.) generates lower noise levels than grading activities, but the activity remains stationary and can be persistent for a number of days. As with grading activities, the allowable hours of finish construction are limited by the City to less noise-sensitive hours (7 AM to 7 PM Monday through Saturday) if they involve the operation of power tools or combustion equipment (compressors, generators, pumps, etc.).

Due to the location of the project site adjacent to the City's Preserve area, noise impacts to wildlife may occur. If threatened or endangered noise-sensitive species (particularly birds) are present near the project area, they would require noise protection during construction. The noise standard for avian species protection applied by wildlife management agencies (USFWS, etc.) is 60 dBA LEQ (peak hour). Experience

around construction sites shows this level is typically exceeded out to perhaps 500 feet from the activity. As discussed in Section 4.2, *Biological Resources*, of this EIR, sensitive species have been identified within this potential noise envelope, and a significant noise impact could result to wildlife. A variety of mitigation measures are generally applied to maintain a less-than significant impact.

### Rock Blasting

Highly fractured, but relatively hard rock deposits underlay much of the project area. Boulders are evident on the surface of a number of small “islands.” In order to develop buildable lots, the boulders must be removed, and the hard near-surface rock may require blasting to enhance the existing fracturing. These activities may be noisy during site preparation. Boulder removal often is conducted by breaking the pieces using a hydraulic ram, and then crushing the rock fragments into road base or other compacted fill.

There are no City of Chula Vista standards for construction noise, rather construction activities are exempt from the Noise Control Ordinance. If the activity is conducted within the allowable hours specified on the grading permit (7 AM to 7 PM Monday through Saturday), the noise impacts are considered to be mitigated. However, standards normally applied to “stationary” sources such as mines, mechanical equipment, sports arenas, etc. do not apply to rock crushing, blasting or heavy equipment operations during construction. Controlled blasting during construction is substantially different from stereotypical portrayals of fireballs, dust clouds and ejected rocks flying for thousands of feet. Controlled blasting is accomplished by creating time delays between numerous small microblasts where each small explosion adds incrementally to the crest of the shock wave moving through the rock. The many small bursts cause the rock to fracture without any ejected material. The sequenced explosion has been compared to the dull “thump” of an ocean wave breaking on the sand. Perceptible vibration effects occur less than 200 feet from the blast center. Unless they occur in very close proximity to the site perimeter, most people are not even aware that a fracturing blast has occurred. The rock drills used to place the charge, and the warning horns to clear the blast site, are often noisier than the blast itself.

Rock crushing has a reference noise level of 90 dB at 50 feet. The City daytime noise standard, although not applicable to construction of this project, is 65 dB. This level would not be exceeded if rock crushing operations occur beyond 900 feet from the nearest homes. Smaller source-receiver distances can be accommodated if piles of boulder or of finished crushed material surround the crushing operation and act as noise barriers. Under this scenario, homes would exist within the approved Rolling Hills Ranch property located adjacent to the west side of the Bella Lago project area. Noise/vibration impacts from any blasting requirements would be considered less than significant if such activities are conducted within allowable construction hours. The time limits and the distance buffer between project construction and existing residences or sensitive receptors would maintain construction activity noise impacts, including potential blasting of rock, at less than significant levels.

### **Traffic Noise Impacts**

Traffic noise impacts for the proposed project were calculated using the federal highway traffic noise prediction model (FHWA-RD-77-108). Noise levels were calculated for one set of reference conditions, and then calculated for four scenarios (existing, existing plus project, 2005 interim, and 2020 buildout) at fifteen (15) roadway segments in the project vicinity. The results are shown in Table 4.4-1, *Traffic Noise Impact Analysis*. As shown in this table, the project traffic noise contribution is less than 2.5 dB CNEL. The threshold of human detectability of noise changes is 3 dB under ambient conditions. Therefore, off-site

traffic noise changes associated with the proposed project would not be significant.

**TABLE 4.4-1**  
**TRAFFIC NOISE IMPACT ANALYSIS**  
**(CNEL at 100 feet from centerline, in dBA)**

	EXISTING			
	2002	+ Project	2005	2020
<b>East "H" Street:</b>				
Buena Vista Way-Otay Lakes Rd	68.5	68.5	69.4	67.5
Otay Lakes Rd-Corral Cny/Rutgers Ave.	66.7	66.8	67.7	67.6
Corral Cyn/Rutgers Ave-Eastlake Dr.	65.9	66.1	67.0	65.9
Eastlake Dr.-Mt. Miguel Road	62.5	62.9	65.7	67.5
<b>Proctor Valley Road:</b>				
Mt. Miguel Rd.-Lane Ave.	60.3	61.1	65.7	67.6
Lane Ave.-Hunte Pkwy.	58.7	60.1	66.8	67.9
East of Hunte Pkwy.	56.1	58.5	66.7	67.2
<b>Corral Canyon Rd:</b>				
North of East "H" Street	62.9	62.9	63.3	61.0
<b>Rutgers Ave:</b>				
South of East "H" Street	60.1	60.2	63.2	62.6
<b>Eastlake Drive:</b>				
North of East "H" Street	60.0	60.1	62.7	60.3
South of East "H" Street	64.2	64.2	63.9	62.6
<b>Mt. Miguel Road:</b>				
North of East "H" Street/Proctor Vly	56.5	56.7	64.3	65.9
South of East "H" Street/Proctor Vly	57.9	57.9	62.3	64.5
<b>Hunte Parkway:</b>				
North of Proctor Valley Road	52.8	52.8	64.3	55.6
South of Proctor Valley Road	56.3	56.5	32.3	63.9

Source: FHWA-RD-77-108 (Calveno Mod.)

The limited noise impacts associated with project traffic is similarly reflected in any change in the location of the 65 dB CNEL contour. There is negligible difference between the with-project versus the no-project 65 dB CNEL contour distance (five feet or less). There would be no detectable change in the area's traffic noise environment due to the *Bella Lago Precise Plan, Rezone and Tentative Tract Map* project.

**TABLE 4.4-2**  
**TRAFFIC NOISE IMPACTS**  
**(distance to 65 dB CNEL contour from centerline)**

	EXISTING		BUILDOUT	
	2002 Exist.	+ Proj. w/o SR125	2005 w/o SR125	Buildout 2020
<b>East "H" Street:</b>				
Buena Vista Way-Otay Lakes Rd	170	170	195	145
Otay Lakes Rd-Corral Cny/Rutgers Ave.	130	135	150	150
Corral Cyn/Rutgers Ave-Eastlake Dr.	115	120	135	115
Eastlake Dr.-Mt. Miguel Road	70	75	110	150
<b>Proctor Valley Road:</b>				
Mt. Miguel Rd.-Lane Ave.	50	55	110	150

Lane Ave.-Hunte Pkwy.	<50	<50	130	155
East of Hunte Pkwy.	<50	<50	130	140
<b>Corral Canyon Rd:</b>				
North of East "H" Street	70	70	75	55
<b>Rutgers Ave:</b>				
South of East "H" Street	<50	50	75	70
<b>Eastlake Drive:</b>				
North of East "H" Street	<50	<50	70	50
South of East "H" Street	90	90	85	70
<b>Mt. Miguel Road:</b>				
North of East "H" Street/Proctor Vly	<50	<50	90	115
South of East "H" Street/Proctor Vly	<50	<50	65	90
<b>Hunte Parkway:</b>				
North of Proctor Valley Road	<50	<50	90	<50
South of Proctor Valley Road	<50	<50	65	85

Source: FHWA-RD-77-108 (Calveno Mod.)

Traffic noise levels adjacent to the Bella Lago project site are forecast to be less than 65dB CNEL. No outdoor noise mitigation (e.g. noise walls) is needed to meet the City of Chula Vista exterior standard of 65dB CNEL. Measures beyond standard construction, such as structural mitigation (i.e., dual-paned windows, etc.), is similarly not required to meet the City's interior noise standard of 45dB CNEL.

In areas of existing development, traffic from the proposed project would add incrementally to the total noise exposure. A "measurable" impact is not clearly defined in any environmental guidelines. Noise meters used in ambient environments have an accuracy of  $\pm 1$  dB, as do computer noise models used in impacts assessment. Humans, however, typically do not perceive that noise levels have measurably changed until there is a 3 dB difference. A change of 3 dB requires a halving or doubling of traffic volumes if other factors (vehicle mix, time of day, and travel speed) remain the same. Few projects, including the proposed project, individually generate enough traffic to double volumes on already heavily traveled streets with existing noise problems. Therefore, off-site noise impacts from a project relative to "measurable degradation" are mainly cumulative impacts in conjunction with all other sources of traffic growth, rather than individually significant on a project-specific basis.

### Cumulative Impacts

Cumulative buildout noise levels would increase on some area roadways, but decrease on others when SR-125 is completed and operating. Cumulatively significant noise increases (i.e., 3 dB or more) are forecast to occur on a number of area roadways in response to area-wide development, including:

- ◆ East "H" Street: from Eastlake Drive to Mount Miguel Road
- ◆ Proctor Valley Road: from Mount Miguel Road to east of Hunte Pkwy
- ◆ Mt. Miguel Road: north and south of East H Street
- ◆ Hunte Pkwy: south of Proctor Valley Road

These increases have been incorporated into development planning for noise-sensitive residential uses adjacent to each roadway identified above. Sound walls, set-backs and other noise reduction measures have been included in each planned development consistent with the buildout noise levels in Table 4.4-1, above. Cumulative noise impacts, including the contribution from the proposed *Bella Lago Precise Plan, Rezone*,

and Tentative Tract Map project, would therefore be considered a less than significant level and no further mitigation would be required.

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

If Bella Lago developed prior to Subarea III of Rolling Hills Ranch, there would be no existing homes within any potential blasting or rock crushing noise impact zone associated with Bella Lago at time of project construction. However, wildlife in the surrounding areas could be affected by construction noise. Noise/vibration impacts from any blasting requirements would be considered less than significant if such activities are conducted within allowable construction hours. The time limits and the distance buffer between project construction and sensitive receptors would maintain construction activity noise impacts, including potential blasting of rock, at less than significant levels.

#### **4.4.4 Level of Significance Before Mitigation**

### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

The Bella Lago project would result in potential noise impacts on adjacent residents within Neighborhoods 10B and 11 of the Rolling Hills Ranch project due to construction and rock blasting activities. Potential noise impacts on wildlife may also occur due to construction activities if construction occurs during the California gnatcatcher breeding season.

- ◆ Construction and rock blasting activities could impact future residents of Rolling Hills Ranch, if the approved Rolling Hills Ranch project developed prior to Bella Lago.
- ◆ Construction activities may lead to noise related impacts to threatened or endangered noise-sensitive species, particularly birds.

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

If Bella Lago developed prior to Subarea III of Rolling Hills Ranch, then there would be no residential sensitive noise receptors within the project vicinity. The wildlife sensitive noise receptors would remain. Potential noise impacts under this scenario would be less than significant if Bella Lago developed after development of Subarea III due to the absence of residents near the project site.

#### **4.4.5 Mitigation Measures**

### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

Construction activities associated with the development of the proposed project could have a significant impact on residents within the adjacent Rolling Hills Ranch project, if it were developed prior to development of Bella Lago. The proposed project could also potentially result in short-term, significant impacts on wildlife, if such activities occur during the California gnatcatcher breeding season. Therefore, the following mitigation measures are required:



*Measure 4.4a: As a condition of approval of the first grading permit, the applicant shall be required to limit all construction and rock blasting activities to between 7 AM and 7 PM Monday through Saturday.*

*Measure 4.4b: Prior to the approval of the first grading permit, the applicant shall submit a construction noise mitigation plan for the review and approval of the Environmental Review Coordinator, that incorporates seasonal avoidance, alternative equipment or temporary barriers on a habitat-specific basis to achieve a less than significant impact during the nesting/breeding season.*

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

No additional mitigation measures would be required under this scenario.

#### **4.4.6 Level of Significance After Mitigation**

### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

Rolling Hills Ranch is an approved project that would develop residential units adjacent to the west side of the Bella Lago project boundary prior to development of Bella Lago. The residents within the project vicinity could experience noise impacts related to construction activities associated with Bella Lago. The construction related activities for the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project could also result in significant short-term noise impacts to threatened or endangered noise-sensitive species, particularly birds, if they occurred during the breeding season. However, the mitigation measures identified in Section 4.4.5 above would reduce impacts to below a level of significance. The proposed project would not contribute to cumulatively significant noise impacts.

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

Under this scenario, there would be no residents near or adjacent to the proposed project site that could be impacted from noise related activities such as blasting. The construction related activities for the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project could result in significant short-term noise impacts to threatened or endangered noise-sensitive species, particularly birds, if they occurred during the breeding season. However, the mitigation measure related to impacts on wildlife identified in Section 4.4.5 above would reduce impacts to below a level of significance. The proposed project would not contribute to cumulatively significant noise impacts.

## 4.5 AIR QUALITY

The analysis presented in this section is based on the *Air Quality Impact Analysis* prepared by Giroux & Associates, dated June 24, 2002, and a *Summary Air Quality Improvement Plan* prepared by Investigative Science and Engineering, Inc., dated December 2, 2002. A copy of the air quality study is provided in Appendix D to this EIR.

The analysis in this section would be the same under the Development of Bella Lago After Development of Rolling Hills Ranch Subarea III and the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenarios.

### **4.5.1 Existing Conditions**

Air quality is based on levels of contaminants, such as ozone, carbon monoxide, nitrogen dioxide and particulate matter, in the air. Air quality is also largely dependent on the climatic conditions (e.g., rainfall, wind speeds, temperature inversions). Air quality issues are rooted with the health problems that arise from exposure to air pollution. As a public health issue, the preservation of good air quality has gained importance in all levels of planning.

#### **Climate**

Air quality can be affected by the climate of an area. The climate of Chula Vista, as with all of Southern California, is largely controlled by the strength and position of the semi-permanent high-pressure center over the Pacific Ocean. The high-pressure ridge over the West Coast results in the typical early morning cloudiness, hazy afternoon sunshine, clean daytime onshore breezes and steady temperature characteristic of Southern California. Limited rainfall occurs in winter, and summers are often completely dry. The average annual rainfall at Lower Otay Reservoir, the nearest climate station to the project site, is 10.3 inches and occurs each year from November to early April.

The same atmospheric conditions that create a desirable living climate contribute to limiting the dispersal of air pollution generated by the population. The onshore winds across the coastline diminish quickly when they reach the foothill communities east of San Diego, and the sinking air within the offshore high pressure system forms a strong temperature inversion that traps all air pollutants near the ground. The resulting horizontal and vertical stagnation, in conjunction with ample sunlight, cause a number of reactive pollutants to undergo photochemical reactions and form smog. Occasionally high smog levels in coastal communities may occur when polluted air from the South Coast (Los Angeles) Air Basin drifts seaward and southward at night, and then blows onshore the next day. Such weather patterns are particularly frustrating because no matter what San Diego County does to achieve clean air, such interbasin transport will cause occasionally unhealthy air over much of the County despite its best air pollution control efforts.

#### **Meteorological**

Local meteorological conditions in the project vicinity have not been routinely monitored, but they likely conform to the regional pattern of strong onshore winds by day, especially in summer, and weak offshore winds at night, especially in winter. These local wind patterns are driven by the temperature difference between the normally cool ocean and the warm interior and steered by any local topography. In summer, moderate breezes of eight to 12 miles per hour (mph) blow onshore and upvalley from the southwest by day,

and may continue all night as a light onshore breeze when the land remains warmer than the ocean. In winter, the onshore flow is weaker and reverses to blow from the northeast in the evening, as the land becomes cooler than the ocean.

Both the onshore flow of marine air and the nocturnal drainage winds are accompanied by two characteristic temperature inversion conditions that further control the rate of air pollution dispersal throughout the air basin. The cool daytime onshore flow is capped by a deep layer of warm, sinking air. Along the coastline, the marine air layer beneath the inversion cap is deep enough to accommodate any locally generated emissions. However, as the layer moves inland, pollution sources (especially automobiles) add pollutants from below without any dilution from above through the inversion interface. When this progressively polluted layer approaches foothill communities east of coastal developments, it becomes shallower and exposes residents in those areas to the concentrated reacted by-products of coastal area sources.

A second inversion type occurs when slow drainage or stagnation of cool air at night creates localized cold "pools" while the air above the surface remains warm. Such radiation inversions occur throughout the San Diego area but are strongest within low, channelized river valleys. They may trap vehicular exhaust pollutants such as carbon monoxide (CO) near their source until these inversions are destroyed by surface warming the next morning. Any such CO "hot spots" are highly localized in space and time (if they occur at all), but occasionally stagnant dispersion conditions are certainly an important air quality concern in combination with continued intensive development of the Chula Vista area. The intensity of development near the project site is extremely low such that non-local background pollution levels during nocturnal stagnation periods are also low. The local airshed, therefore, has considerable excess dispersive capacity that limits the potential for any localized air pollution "hot spots" from project implementation.

### **Air Quality**

Air pollutants which pose public health risks include ozone, carbon monoxide, nitrogen oxides, and particulate matter. Ozone (O<sub>3</sub>) is a nearly colorless gas which irritates the lungs and damages materials and vegetation. It is formed by photochemical reaction (when nitrogen dioxide is broken down by sunlight). Carbon monoxide (CO) is a colorless, odorless toxic gas which interferes with the transfer of oxygen to the brain and is produced by the incomplete combustion of carbon-containing fuels emitted as vehicle exhaust. Nitrogen dioxide (NO<sub>2</sub>) is a yellowish-brown gas, which at high levels can cause breathing difficulties. NO<sub>2</sub> is formed when nitric oxide (pollutant from burning processes) combines with oxygen. PM<sub>10</sub> is particulate matter which are less than 10 microns in diameter. It causes a greater health risk than larger sized particles, since these fine particles can more easily penetrate the defenses of the human respiratory system and cause irritation by themselves and in combination with gases. The concern for even smaller particles (PM<sub>2.5</sub>) to cause respiratory problems has also been raised.

These pollutants come from a variety of stationary and mobile sources such as vehicle exhaust, power generation, natural gas generation and the operation of certain equipment in construction and industry. Exhaust emissions from vehicles vary according to speed, type of engine (gasoline or diesel), the length of use, and the power available. Emissions from stationary sources occur at off-site power plants and are estimated by the amount of natural gas and electric power consumed. Construction and industrial equipment generate pollutant emissions that are highly variable according to the type and technology of a specific equipment.

Ambient Air Quality Standards (AAQS)

In order to gauge the significance of the air quality impacts associated with implementation of the proposed Bella Lago development, those impacts, together with existing background air quality levels, must be compared to the applicable ambient air quality standards. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people whose current health condition makes them most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other diseases or illness and persons engaged in strenuous work or exercise, called "sensitive receptors."

National Ambient Air Quality Standards (AAQS) were established in 1971 for six pollution species. Because California had established state AAQS before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table 4.5-1, *Ambient Air Quality Standards*.

**TABLE 4.5-1**  
**AMBIENT AIR QUALITY STANDARDS**

Pollutant	Averaging Time	California Standards		Federal Standards		
		Concentration	Method	Primary	Secondary	Method
Ozone (O <sub>3</sub> )	1 Hour	009 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	0 12 ppm (235 µg/m <sup>3</sup> )	Same as Primary Standard	Ethylene Chemiluminescence
	8 Hour	—		008 ppm (157 pig/m <sup>3</sup> )		
Respirable Particulate Matter (PM <sub>10</sub> )	Annual Geometric Mean	30 µg/m <sup>3</sup>	Size Selective Inlet Sampler ARP Method P (8/22/85)	—	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	24 Hour	50 µg/m <sup>3</sup>		150 µg/m <sup>3</sup>		
				50 µg/m <sup>3</sup>		
	Annual Arithmetic Mean	—				
Fine Particulate Matter (PM <sub>2.5</sub> )	24 Hour	No Separate State Standard		65 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean			15 µg/m <sup>3</sup>		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 µg/m <sup>3</sup> )	Non-dispersive Infrared Photometry (NDIR)	9 ppm (10 µg/m <sup>3</sup> )	None	Non-dipersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 µg/m <sup>3</sup> )		35 ppm (40 µg/m <sup>3</sup> )		
	8 Hour (Lake Tahoe)	6 ppm (7 µg/m <sup>3</sup> )		—		
Nitrogen Dioxide (NO <sub>2</sub> )	8 Hour (Lake Tahoe)	—	Gas Phase Chemiluminescence	0053 ppm (100 µg/m <sup>2</sup> )	Same as Primary Standard	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.25 ppm (470 µg/m <sup>3</sup> )		—		
Lead	30 days average	1.5 µg/m <sup>3</sup>	AIHL Method 54 (12/74)	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—	Atomic Absorption	1.5 µg/m <sup>3</sup>	Same as Primary Standard	Atomic Absorption

Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	—		Fluorescence	0030 ppm (80 µg/m <sup>3</sup> )	—	Parosoiniline
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )			0.14 ppm (365 µg/m <sup>3</sup> )	—	
	3 Hour	—			—	0.5 ppm (1300 µg/m <sup>3</sup> )	
	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )			—	—	
Visibility Reducing Particles	8 Hour (10 am to 6pm. PST)	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer- visibility of ten miles or more (007—30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70 percent Method: ARB Method V (8/18/89).			No Federal Standards		
Sulfates	24 Hour	25 µg/m <sup>3</sup>	Turbidimetric Barium Sulfate-AIUL Method 61 (2/76)				
Hydrogen Sulfide	1 Hour	003 ppm (42 µg/m <sup>3</sup> )	Cadmium Hydroxide STRactan				

The table above includes the most recently (1997) adopted federal standards for chronic (eight-hour) ozone exposure or for ultra-small diameter particulate matter of 2.5 microns or less in diameter (PM<sub>2.5</sub>). Implementation of these standards had been put on hold through an order issued by the U.S. Circuit Court of Appeals. That stay was appealed to the U.S. Supreme Court. In a unanimous decision, the Supreme Court ruled in February 2001, that the Environmental Protection Agency (EPA) did indeed have the proper authority to adopt national clean air standards, and that a cost/benefit analysis need not accompany such new rules. However, the Court ruled that attainment schedules for new standards were inconsistent, and that new schedules must be prepared. Data collection is therefore continuing, but no enforcement or attainment actions are currently ongoing for these standards until the attainment schedule coordination issue is resolved.

### Baseline Air Quality

The nearest air quality measurements to the project site are made in downtown Chula Vista by the San Diego County Air Pollution Control District (APCD), the agency responsible for air quality planning, monitoring and enforcement in the San Diego Air Basin (SDAB). Table 4.5-2, *Chula Vista Air Quality Monitoring Summary*, summarizes the last seven years of published monitoring data from the Chula Vista (80 East J Street) station.

**TABLE 4.5-2**  
**CHULA VISTA AIR QUALITY MONITORING SUMMARY**

Pollutant/Standard	Number of Days Standards Were Exceeded and Maximum Levels During Such Violations						
	1994	1995	1996	1997	1998	1999	2000
<b>Ozone:</b>							
1-Hour > 0.09 ppm	4	7	1	10	2	4	0
1-Hour > 0.12 ppm	0	1	0	0	0	0	0
8-Hour > 0.08 ppm	0	1	0	3	0	0	0
Max. 1-Hour Conc. (ppm)	0.10	0.14	0.10	0.12	0.10	0.10	0.10
<b>Carbon Monoxide:</b>							
1-Hour > 20. Ppm	0	0	0	0	0	0	0
8-Hour > 9. Ppm	0	0	0	0	0	0	0
Max. 1-Hour Conc.	7	5	6	5	4	5	6



(ppm)							
Max. 8-Hour Conc. (ppm)	3.8	4.0	3.2	3.6	2.7	3.0	3.1
<b>Nitrogen Dioxide:</b>							
1-Hour > 0.25 ppm	0	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.10	0.10	0.08	0.11	0.10	0.10	0.07
<b>Inhalable Particulates: (PM<sub>10</sub>)</b>							
24-Hour > 50 µg/m <sup>3</sup>	2/6	5/59	2/60	2/60	0/59	2/49	1/54
24-Hour > 150 µg/m <sup>3</sup>	0/60	0/59	0/60	0/60	0/59	0/49	0/54
Max. 24-Hour Conc. µg/m <sup>3</sup>	61	100	62	58	39	59	52
<b>Ultrafine Particulates: (PM<sub>2.5</sub>)</b>							
24-Hour > 65 µg/m <sup>3</sup>	---	---	---	---	---	0/108	0/101
Max. Daily Conc. (µg/m <sup>3</sup> )	---	---	---	---	---	47	40

Note: Standards for sulfur dioxide, particulate sulfate and particulate lead have been met with a wide margin of safety in 1994-2000 and are therefore not shown.

--- = PM-2.5 measurements begun in 1999.

Source: California Air Resources Board, Summary of Air Quality Data, 1994-2000. Chula Vista APCD Monitoring Station.

As shown by Table 4.5-2, progress towards cleaner air is seen in almost every pollution category. The only federal clean air standard that was exceeded throughout the seven year monitoring period was the hourly ozone standard. This standard was exceeded once in 1995. The more stringent State standards for ozone and for PM<sub>10</sub> were exceeded on a somewhat higher frequency; but overall air quality in Chula Vista, as representative of the project area, is nevertheless very good in comparison to other areas of the SDAB.

There are no clear-cut trends in the Chula Vista baseline air quality data. Improvement of the few standards routinely exceeded is relatively slow. In the last four years, Chula Vista recorded the following air pollution records in its monitoring history:

- ◆ Fewest violations of the California hourly ozone standard (2000);
- ◆ Fewest violations of federal ozone standard (1996 through 2000);
- ◆ Lowest annual 1-hour ozone maximum (2000);
- ◆ Lowest annual 1-hour CO maximum (1998 and 1999);
- ◆ Lowest annual 8-hour CO maximum (1998);
- ◆ Lowest annual 1-hour NO<sub>2</sub> maximum (2000); and
- ◆ Fewest violations of PM-10 standard (1998).

Extrapolation of the pollution trendline suggests that limited violations of standards could occur into the future, but with decreasing frequency. Since observed San Diego County ozone air quality sometimes derives from the southward drift of pollution from the South Coast Air Basin (which is forecast to continue to exceed ozone standards to the year 2010), some ozone standard violations will likely occur in the County within this decade despite County-wide pollution control efforts. A further improvement in ambient air quality from County-generated emissions reductions will thus occur within the next decade, but complete attainment of all standards may not happen until closer to 2010.

Federal attainment criteria allow for one violation of national clean air standards per year averaged over three

years. Inspection of Table 4.5-2, *Chula Vista Air Quality Monitoring Summary*, shows that the federal ozone standard of 0.12 ppm for one hour was exceeded only once in seven years. Although not recognized as such in basin-wide attainment classification, the Chula Vista area technically is an attainment sub-area within the larger San Diego Air Basin non-attainment area. Except in foothill communities most affected by air stagnation at the base of the summer inversion, attainment of the federal ozone standard is close at hand throughout the air basin. The federal ozone standard was met throughout the entire air basin for the first time in basinwide monitoring history in 1999, and was met again in 2000. Preliminary data for 2001 again shows basin-wide attainment of the one-hour ozone standard. Redesignation of the basin as an "attainment" airshed for the federal one-hour ozone standard is anticipated within the next few years if the clean air trend persists.

Some air quality concern has been raised about pollutant transport from Mexico with its considerably less stringent pollution control laws. An air quality station was established on Otay Mesa in part to monitor this phenomenon. Some slight differences in ozone distribution on Otay Mesa are seen compared to Chula Vista. However, these differences do not indicate any substantial cross-border pollution transport.

### Sources of Pollution

Nitrogen oxides (NO<sub>x</sub>) and reactive organic gases (ROG) are the two precursors to photochemical smog formation. Table 4.5-3, *San Diego Air Basin Emissions Inventory*, shows that in San Diego County, 63 percent of the of ROG emitted comes from mobile sources (i.e., cars, ships, planes, heavy equipment, etc.). For NO<sub>x</sub> emissions, 91 percent comes from mobile sources. Computer modeling of smog formation has shown that all existing programs to reduce NO<sub>x</sub> and ROG would allow the San Diego Air Basin to meet the federal ozone standard by 1999 on days when there is no substantial transport of pollution from the South Coast Air Basin or other airshed. As noted above, there was not a single violation of the federal ozone standard anywhere within the entire SDAB from 1999 to 2001.

Table 4.5-3 also shows that emission levels are forecast to decline further for those pollutants where standards are currently met. However, particulate levels are forecast to increase, and the basin is a non-attainment airshed for the State PM<sub>10</sub> standard. Accelerated PM<sub>10</sub> control must be implemented in order to meet the State PM<sub>10</sub> standard in the future.

TABLE 4.5-3  
SAN DIEGO AIR BASIN EMISSIONS INVENTORY

Year 2000 Inventory:	(tons/day)			
	NO <sub>x</sub>	ROG	CO	PM <sub>10</sub>
Stationary Sources	17	47	40	9
Area Sources	3	43	67	101
On-Road Mobile	106	114	1135	4
Gasoline				
Diesel	40	3	11	1
Other Mobile	68	33	276	7
TOTAL	234*	239*	1529**	121°
2005 Forecast	186	201	1109	134
2010 Forecast	152	188	895	143

Notes:

- \* = federal one-hour standard is met at this emission level.
- \*\* = all federal and State standards are met at this emission level.
- ° = State PM-10 standard is exceeded at this emission level.

Source: California ARB, 2000: The 2001 California Almanac of Emissions & Air Quality.

## Air Quality Management Planning

The historic (until 1999) violations of national Ambient Air Quality Standards (AAQS) in the SDAB, particularly those for ozone in inland foothill areas, required that a plan be developed outlining the pollution controls that were to be undertaken to improve air quality. In San Diego County, this attainment planning process is embodied in a regional air quality management plan developed jointly by the Air Pollution Control District (APCD) and SANDAG. Several plans had been adopted in the late 1970s and early 1980s under the title Regional Air Quality Strategies (RAQS). More recent planning efforts have been modifications, improvements and updates of the earlier RAQS efforts.

The California Clean Air Act (AB-2595) required that a state clean air plan be developed to address meeting state standards as well as the often less stringent federal criteria. As a result, a basin plan was developed and adopted in 1991 that predicted attainment of all national standards by the end of 1997 from pollution sources within the air basin. However, little could be done about the problem of interbasin transport. Violations of State ozone and PM-10 standards were anticipated to occur for much of the current decade.

A plan to meet the federal standard for ozone was developed in 1994 through an update of the 1991 State Plan. This local plan was combined with those from all other California non-attainment areas with serious (or worse) ozone problems to create the California State Implementation Plan (SIP). The SIP was adopted by the Air Resources Board (ARB) in 1994, and forwarded to the U.S. EPA for their approval. After considerable analysis and debate, particularly regarding airsheds with the worst smog problems, EPA finally approved the SIP in mid-1996.

In the current SIP, all progress towards attainment, including offsetting the effects of growth, is expected to derive from existing local, state and federal rules and regulations. Controversial rules previously evaluated and judged by some people as overly intrusive into personal lifestyles (mandatory trip reduction programs or minimum average vehicle occupancy goals) are not needed to predict attainment. Any violations of federal ozone standards in the year 2000 or beyond are forecast to occur only on days when transport from the Los Angeles Basin creates substantially elevated baseline levels upon which any local basin impacts would be superimposed.

In general, single-family residential developments such as that proposed for the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project are not of themselves emitters of air pollutants. They generate air pollution almost exclusively through commuting, shopping or other personal travel. Traffic-generating sources are called "indirect sources." Project consistency with any regional air quality planning is determined in terms of whether overall growth has been correctly anticipated in a given sub-region. If a given project represents an increment of growth predicted by SANDAG in its growth forecasts, and if any applicable emissions control measures applicable on a project-specific basis are implemented, then the regional air quality impact of project implementation is less than significant.

### **4.5.2 Threshold of Significance**

Appendix G of the CEQA guidelines defines a potentially significant air quality impact as one that would:

- ◆ Conflict with or obstruct implementation of the applicable air quality plan;
- ◆ Violate any air quality standard or contribute substantially to an existing or projected air quality

violation;

- ◆ Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
- ◆ Expose sensitive receptors to substantial pollutant concentrations; or,
- ◆ Create objectionable odors affecting a substantial number of people.

For projects that create primarily automobile traffic, whose emissions require complex photochemical reactions to reach their most harmful stage, there is no way to measure the impact to establish a "measurable contribution." Various air pollution control/management agencies have developed guidelines using total project emissions as a surrogate for determining regional impact potential. The City of Chula Vista has no such threshold levels, but relies on guidance from other agencies. Candidate significance threshold levels for project operations are included in Table 4.5-4, *Threshold Levels for Project Operations*.

**TABLE 4.5-4  
THRESHOLD LEVELS FOR PROJECT OPERATIONS**

Agency	Significant Emissions (lb/day)				
	CO	ROC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>
SDAPCD Rule 20.2 (a)	550	---	250	250	100
City of San Diego (b)	550*	100**	---	---	---
South Coast AQMD (c)	550	55	55	150	150

Notes: (a) = requires ambient air quality analysis

(b) = Significance Determination Guidelines (1991)

(c) = SCAQMD CEQA Air Quality Handbook (1993)

\* = in areas of congested traffic

\*\* = in areas of free-flow traffic

Recent environmental documentation for Otay Ranch, such as the Otay Ranch Sectional Planning Area (SPA) One Air Quality Improvement Plan (AQIP), utilized the most conservative of these candidate sets of significance criteria as they relate to ROC and NO<sub>x</sub>, the main precursors to photochemical smog (ozone) formation. The AQIP utilized 55 pounds each of ROC and NO<sub>x</sub> as the recommended significance criterion. For consistency with other environmental assessment documents, the use of the SCAQMD criteria has been maintained in this document.

Because of the temporary nature of construction emissions, a somewhat less stringent set of significance criteria was adopted for construction activities, as follows:

- ◆ ROC - 2.5 tons/quarter
- ◆ NO<sub>x</sub> - 2.5 tons/quarter
- ◆ CO - 24.75 tons/quarter
- ◆ SO<sub>x</sub> - 6.75 tons/quarter
- ◆ PM-10 - 6.75 tons/quarter

### **4.5.3 Impact Analysis**

#### **Sources of Impact**

The proposed Bella Lago project would impact air quality almost exclusively through the vehicular traffic generated by project residents. Mobile source impacts occur on both a regional scale and a local scale.

Regionally, site-related travel would add to regional trip generation and increase the vehicle miles traveled (VMT) within the local airshed. Locally, project traffic, would be added to the Chula Vista roadway system near the project site. If such traffic occurs during periods of poor atmospheric ventilation, is comprised of a large number of vehicles "cold-started" and operating at pollution inefficient speeds, and is driving on roadways already crowded with non-project traffic, there is a potential for the formation of microscale air pollution "hot spots" in the area immediately around points of congested traffic. With continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, air pollution "hot spot" potential is steadily decreasing. Standards for carbon monoxide (CO), the most typical indicator of any "hot spot" potential, have not been exceeded at any air basin monitoring station since 1990.

Secondary project-related atmospheric impacts derive from a number of other small, growth-connected emissions sources such as temporary emissions of dusts and fumes during project construction, increased fossil-fuel combustion in power plants from project electricity requirements, evaporative emissions at gas stations or from paints, thinners or solvents used in construction and maintenance, increased air travel from area visitors, dust from tire wear and re-suspended roadway dust, etc. All these emission points are either temporary, or they are so small in comparison to project-related automotive sources such that their impact is less important. However, growth is associated with increased air pollution emissions from a wide variety of sources, which further inhibits the near-term attainment of all clean air standards in the San Diego Air Basin (SDAB).

### Construction Impacts

The proposed project would construct 140 residences on 93.1 acres of undisturbed land. Dust lofting rates from construction activities average approximately 1.2 tons of dust per month per acre disturbed. This rate is for total suspended particulate (TSP). TSP contains a limited fraction of particulate matter (PM<sub>10</sub>) small enough to enter into human lung tissue. The above factor also does not consider the dust control efficiency from normal construction practice. Dust control through regular watering and other fugitive dust abatement measures required by the San Diego APCD can reduce dust emission levels from 50 to 75 percent. Dust emissions rates, therefore, depend on the site development rate and the care with which dust abatement procedures are implemented.

The California Air Resources Board (ARB), in the development of the statewide PM<sub>10</sub> emissions inventory, estimates that the average disturbance footprint for a single family home is one-seventh acre. Development associated with the proposed project would occur on 93.1 acres, and it is assumed the rough grading would be done in entirety and would take a few months to complete. As a worse case scenario, the project is presumed to have a nine-acre disturbance "footprint" for dust generation on a daily basis. For a nine-acre "footprint," PM<sub>10</sub> emissions are estimated to be approximately 238 pounds per day with the use of "standard" dust control measures. This emission level would be in excess of the 150 pound per day threshold; however, enhanced dust control measures would be implemented as part of the project. Enhanced control measures can achieve 80 percent control efficiencies compared to the 50 percent attainable with watering alone as the only standard dust control measure. The ARB assigns a PM<sub>10</sub> emissions rate of 10.2 pounds per acre when additional dust control is practiced beyond once daily watering. With adoption of enhanced dust control measures, maximum daily PM<sub>10</sub> emissions can thus be maintained at 92 pounds per day. This would be well below the PM<sub>10</sub> significance threshold of 150 pounds/day. With the use of best available control measures (BACMs) for dust control, temporary PM<sub>10</sub> impacts from project construction would be insignificant.

Regardless of the magnitude of PM<sub>10</sub> emissions, recent research has shown that adverse health impacts from



particulate inhalation derive almost completely from PM<sub>2.5</sub>. A new national air quality standard for PM<sub>2.5</sub> was adopted in 1997. PM<sub>2.5</sub> is made from combustion sources or from chemical reactions among chemically active gaseous pollutants. Soil disturbance contributes negligibly to PM<sub>2.5</sub>, and soil disturbance material is normally chemically inert. Regardless of the total magnitude of fugitive construction dust emissions, a finding of air quality impact insignificance can be supported by the almost total absence of PM<sub>2.5</sub> and the low chemical reactivity of the emissions themselves in such dust.

In addition to small dust particles that remain suspended in the air semi-indefinitely, construction also generates many large diameter particles that are easily filtered by human breathing passages, but settle out rapidly on parked cars and other nearby horizontal surfaces. These large particle emissions comprise more of a soiling nuisance rather than any potentially unhealthful air quality impact. EPA studies on particulate deposition have shown that the primary zone of impact is less than 50 feet from the source, and secondary soiling impacts occur within several hundred feet. Existing residences are located well away from any area of substantial construction dust impacts. Good control of fine particulates also results in reduction in nuisance potential from larger particulate matter. While dust deposition can be minimized, it often cannot be completely eliminated. Temporary soiling nuisance is thus considered adverse, but it does not constitute a significant air quality impact.

Equipment exhaust would also be released during temporary construction activities, particularly from mobile sources during site preparation and from on-site equipment during actual construction. Construction activities were assumed to require the expenditure of approximately 6 million Brake Horsepower Hours (BHP-HR) of on-site equipment and off-site trucks to grade the site. Assuming that all such equipment is diesel-powered and that heaviest equipment operations occur in approximately 200 days, then the following daily emissions that are shown in Table 4.5-5, *Construction Related Emissions*, would result during project construction.

**TABLE 4.5-5**  
**CONSTRUCTION RELATED EMISSIONS**

<b>Pollutant:</b>	<b>Exhaust (lb/day)</b>	<b>Emissions (tons/qtr.)*</b>	<b>Significance Threshold (tons/qtr.)</b>
Reactive Organic Gases	18	0.45	2.5
Carbon Monoxide	57	1.42	25.0
Nitrogen Oxides	258	6.45	2.5
Exhaust Particles	9	0.22	6.75
Sulfur Dioxide	18	0.45	6.75

Notes: \* = 50 grading days per quarter

The NO<sub>x</sub> from diesel-fueled trucks and on-site vehicles are substantial, and exceed the threshold levels identified above. Such emissions would be widely dispersed in space and time by the mobile nature of much of the equipment itself. Furthermore, daytime ventilation during much of the year in Chula Vista is usually more than adequate to disperse any local pollution accumulations near the project site. Any perceptible impacts from construction activity exhaust would be confined to an occasional "whiff" of characteristic diesel exhaust odor, but not in sufficient concentration to expose any nearby receptors to air pollution levels above acceptable standards. Truck exhaust impacts can be minimized by controlling construction routes to reduce interference with non-project traffic patterns and to preclude truck queuing or idling near sensitive receptor sites.

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24 hour per day, 365 day per year, 70 year lifetime

exposure. Public exposure to heavy equipment operating in the distance would be an extremely small fraction of the above dosage assumption. Diesel equipment is also becoming progressively "cleaner" in response to air quality rules on new off-road equipment. Any public health risk associated with project related heavy equipment operations exhaust is therefore unquantifiable, but small.

Clearing of the project site, excavating for utilities, the preparation of foundations and footings, and construction of any "hardscape" would create temporary emissions of dusts, fumes, equipment exhaust and other air contaminants during the project construction period. In order to reduce air emissions, the City of Chula Vista has developed recommended construction measures for new development projects, which include the following:

- ◆ Minimize simultaneous operation of multiple construction equipment units (i.e., phase construction to minimize impacts);
- ◆ Use low pollutant-emitting construction equipment;
- ◆ Use electrical construction equipment as practical;
- ◆ Use catalytic reduction for gasoline-powered equipment;
- ◆ Use injection timing retard for diesel-powered equipment;
- ◆ Water the construction area twice daily to minimize fugitive dust;
- ◆ Stabilize (for example, hydroseed) graded areas as quickly as possible to minimize fugitive dust;
- ◆ Pave permanent roads as quickly as possible to minimize dust;
- ◆ Use electricity from power poles instead of temporary generators during building construction;
- ◆ Implement track-out control as follows:
  - a. Apply chemical stabilizer or pave the last 100 feet of internal travel path within a construction site prior to public road entry;
  - b. Install wheel washers adjacent to a paved apron prior to vehicle entry on public roads;
  - c. Remove any visible track-out into traveled public streets within 30 minutes of occurrence;
  - d. Wet wash the construction access point at the end of each workday if any vehicle travel on unpaved surfaces has occurred;
  - e. Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads;
  - f. Cover haul trucks or maintain at least 12 inches of freeboard to reduce blowoff during hauling; and
  - g. Suspend all soil disturbance and travel on unpaved surfaces if winds exceed 25 mph

Implementation of the measures applicable to the proposed project have been included in the construction activity emissions estimate for the project. In general, the most significant source of air pollution from project construction is typically the dust generated during clearing, excavation and site preparation. Therefore, dust associated with the construction of the project would be considered a significant impact to air quality.

## Operational Impacts

Similar to construction impacts, the City of Chula Vista has developed operational activity mitigation measures for new development projects. The measures which are applicable to the proposed Bella Lago project include the following:

- ◆ The avoidance of potentially incompatible projects;
- ◆ Dedicated bike lanes to encourage use of bicycles;
- ◆ Sidewalks and curbs to ensure safe pedestrian travel within residential areas and to commercial centers;
- ◆ Street designs that promote pedestrian safety (i.e., safe islands in center of major arterials, "Walk" signals, night lighting, etc.);
- ◆ Use solar energy systems, as practical;
- ◆ Low-NO<sub>x</sub> residential water heaters; and
- ◆ Enhanced energy efficiency in building designs and landscaping plans.

These measures have been incorporated into the project design, as identified in the summary AQIP prepared for the project. The summary AQIP states that the developer will implement the *ComfortWise<sup>SM</sup>*, *SDGE CA EnergyStar<sup>SM</sup>*, or custom *Community Energy Efficiency Program* (CEEP) building program on all units within the project. The energy requirements for the CEEP programs are designed to be at least 15 percent more energy efficient than the California Title 24 energy code. In addition, design features incorporated into the Bella Lago project would help reduce CO<sub>2</sub> emissions within the project. These include:

1. The project would have a paved, 12-foot wide bicycle and walking pathway traversing the entire eastern edge of the project. This path would in turn link up to all project cul-de-sacs, again encouraging bicycling and walking.
2. The project contains three depressed detention basins, which will be planted with grass and landscaped in a neighborhood park-like fashion.
3. The entire project site would have an Italian Village theme with lushly landscaped areas and hundreds of trees. In fact, this level of dense landscaping is the focal point of the project's Italian Village theme. It is the intent of the project landscape design to go above and beyond the minimum City requirements.
4. All homes will be wired for telecommuting encouraging home office use. This would lower the aggregate number of daily car trips to remote offices or other locations.
5. The project contains a 50-foot wide fuel management zone surrounding the entire development that will be planted with grass and ornamental shrubs not exceeding 18 inches in height. The zone creates about ten acres of open space in addition to the current 90 acres of dedicated open space.
6. The pad to lot ratio is large, meaning there will be increased open space on each lot compared to actual building area.

## Mobile Sources

Project-related mobile source emissions for the proposed development were calculated using the California Air Resources Board computer model URBEMIS7G. The year 2005 was selected as the buildout year. Table 4.5-6, *Total Operational Emissions*, summarizes the emissions calculations that show emissions would not exceed established thresholds for any exhaust pollutants. The new traffic that would be generated by the

proposed project is too small to create a potentially significant regional air quality impact.

**TABLE 4.5-6**  
**TOTAL OPERATIONAL EMISSIONS\***  
**(POUNDS/DAY)**

	ROG	NO <sub>x</sub>	CO	PM-10
Mobile Sources	14.4	14.2	121.0	12.8
Area Sources	7.4	1.8	3.1	<0.01
TOTALS	21.8	16.0	124.1	12.8
SCAQMD Threshold	55	55	550	150
Percent of Threshold	40%	29%	23%	9%

Notes: Source: URBEMIS7G Computer Model for mobile source emissions; Year 2005

\* = SO<sub>x</sub> emissions are negligible for mainly passenger automobiles comprising the project-related travel fleet.

Locally, air quality "hot spots" (especially carbon monoxide, or "CO") could form if project implementation was to create highly congested intersections where vehicles sit idling through several traffic light cycles. With cleaner cars and declining background CO levels, major intersections must currently operate almost at Level of Service F before hot spot formation is feasible. With continued vehicular emissions reductions from newer cars, future hot spot formation is even less likely than any near-term concerns.

A CO screening analysis has been conducted for six intersections in the project vicinity. Maximum one-hour CO concentrations were calculated at 25 feet from the roadway edge during both AM and PM rush hour conditions with worst-case meteorological conditions (strong temperature inversion and near-calm winds). In 2000, the maximum one-hour background CO concentration in Chula Vista was 6 ppm. It would require a local contribution of 14 ppm if worst-case local exposures were to occur simultaneously with the maximum background in order to equal the most stringent California one-hour standard of 20 ppm.

Table 4.5-7, *Microscale Air Quality Impact Analysis*, shows that no existing or future intersections would begin to approach a local exposure that would possibly cause a "hot spot." Microscale air quality concerns relative to project implementation are less than significant. Therefore, any air quality issues would be regional in nature rather than being concentrated anywhere near the project site.

**TABLE 4.5-7**  
**MICROSCALE AIR QUALITY IMPACT ANALYSIS**  
**(ONE-HOUR CO CONCENTRATIONS IN PPM ABOVE BACKGROUND)**

	<Existing>		Interim	<Buildout>
	2002	+ proj.	2005	2020
<b>AM Peak Hour</b>				
<b>East "H" Street @</b>				
Otay Lakes Road	5.1	5.2	4.9	2.2
Corral Cyn/Rutgers Ave	3.1	3.2	3.2	1.0
Eastlake Drive	2.5	2.5	2.7	1.0
<b>Proctor Valley Road @</b>				
Mount Miguel Road	0.5	0.6	3.6	2.3
Lane Avenue	0.5	0.6	4.7	2.4
Hunte Parkway	0.2	0.2	1.8	2.0
<b>PM Peak Hour</b>				
<b>East "H" Street @</b>				
Otay Lakes Road	5.4	5.4	6.3	1.9
Corral Cyn/Rutgers Ave	2.6	2.7	2.5	0.8
Eastlake Drive	2.2	2.5	2.6	0.9
<b>Proctor Valley Road @</b>				
Mount Miguel Road	0.7	1.0	2.8	2.4
Lane Avenue	0.4	0.5	4.7	2.5
Hunte Parkway	.02	0.3	3.7	2.7

Source: Screening procedure based on CALINE4 model.

As shown by Table 4.5-7, the CO increment attributable to project-related traffic is approximately 0.3 ppm at East H Street and Eastlake Drive. This represents less than two percent of the most stringent California CO standard of 20 ppm. One-hour CO concentrations are measured and reported to the nearest whole ppm. The project impact is a de minimis change and not a detectable amount. Project-related microscale air quality impacts are individually less than significant.

The proposed 140-unit project would not affect land use patterns or incorporate major traffic demand management features. Discretionary actions by a developer focus almost exclusively on energy conservation as a means of air pollution reduction. Use of energy conservation design that exceeds the minimum California Title 24 requirements by a reasonable target is a viable mitigation measure. Attainment of this target can be via an established conservation program ("Energy Star" etc.), or by incorporation of extra conservation features that exceed the Title 24 requirements by an additional ten percent of energy use.

### Cumulative Impacts

The project's contribution to an air quality impact is not detectable. Project-related microscale air quality impacts are individually less than significant. The project would not contribute substantially to a cumulative impact on air quality.



#### **4.5.4 Level of Significance Before Mitigation**

The proposed project would result in potentially significant short-term impacts caused by the clearing of the project site, excavating for utilities, the preparation of foundations and footings, and construction of any "hardscape," which would create temporary emissions of dusts, fumes, equipment exhaust and other air contaminants during the project construction period. After construction, the project would result in an incremental contribution to air pollution resulting from the introduction of human activity and vehicles to the area. However, the project incorporated design features which minimize operational impacts, and no significant operational impacts are anticipated.

#### **4.5.5 Mitigation Measures**

Air quality impact mitigation is a standard requirement for new development in Chula Vista, and a number of mitigation measures have been developed and included in the proposed development project. However, a potentially significant short-term air quality impact could result from dust generated during construction activities. Therefore, the following mitigation measure is recommended:

*Measure 4.5a Project construction shall implement enhanced dust control measures to maintain a less-than-significant impact associated with air quality during construction. Enhanced dust control measures shall be called out as notes on the project grading plan(s) and shall include the following:*

- ◆ *Water all active construction areas at least twice daily.*
- ◆ *Cover all haul trucks or maintain at least two feet of freeboard.*
- ◆ *Pave or apply water four times daily to all unpaved parking or staging areas.*
- ◆ *Sweep or wash any site access points within 30 minutes of any visible dirt deposition on any public roadway.*
- ◆ *Cover or water twice daily any on-site stockpiles of debris, dirt or other dusty material.*
- ◆ *Suspend all operations on any unpaved surface if winds exceed 25 mph.*
- ◆ *Hydroseed or otherwise stabilize any cleared area which is to remain inactive for more than 96 hours after clearing is completed.*

#### **4.5.5 Level of Significance After Mitigation**

The mitigation measures identified above would reduce impacts on air quality to below a level of significance. In addition, operation impacts have been considered to be too limited in scope and would not create a significant individual or cumulative air quality impact.

## 4.6 CULTURAL RESOURCES

The analysis presented in this section is based on a cultural resources study titled *Archaeological Resources Survey and Testing for Bella Lago Estates*, prepared by Affinis, dated August 2000. A copy of the cultural resources study is provided in Appendix E of this EIR. This section summarizes the results of the study and analyzes two scenarios: the development of Bella Lago after the development of Rolling Hills Ranch Subarea III, and the development of Bella Lago prior to the development of Rolling Hills Ranch Subarea III. Under the latter scenario, in order to provide access to Bella Lago, the project would be required to construct off-site roads planned for development in Neighborhoods 10B and 11 of Rolling Hills Ranch. For the analysis of cultural impacts associated with construction of access roadways through Rolling Hills Ranch, the previous cultural resources surveys conducted for the Rolling Hills Ranch EIR have been reviewed. These reports are herein incorporated by reference and are on file for review with the City of Chula Vista Planning and Building Department, located at 276 Fourth Avenue, Chula Vista, California 91910.

### **4.6.1 Existing Conditions**

#### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

##### **History of the San Diego Area**

The results of archaeological research performed in the San Diego region has contributed to the knowledge of the prehistory of San Diego County. Many archaeological sites have been used to help define the culture sequence of the San Diego region. It is generally accepted that the San Dieguito complex, dating to approximately 10,000 years ago, represents the first archaeological sign of native Americans in the San Diego area, followed by the La Jolla complex 7,000 years ago, and then the Native American groups from the Late Prehistoric Period.

The Late Prehistoric period is defined by archaeological manifestations for the inland San Luis Rey and Cuyamaca groups and the coastal Luiseño and Kumeyaay groups. The Cuyamaca complex is found in the southern portion of the county, where the project site is located, and has been defined on the basis of village sites in the foothills and mountains. Elements of mortars and pestles, ceramics, and pictographs, are also associated with Cuyamaca sites.

##### **History of the Project Area**

Both archaeological and historical sites have been identified within the City of Chula Vista. Areas with exploitable resources, including water and lithic sources, are most likely to have archaeological remains present. These sites are expected to occur along ridge tops and terraces above river valleys. The types of sites that have been identified in the Chula Vista area range from isolated artifacts, such as ceramic sherds and stone tools, to multi-component campsites.

Although the downtown portion of the City of Chula Vista is already built-out, the undeveloped eastern portion of the City has numerous archaeological sites. These sites are located in or near the Otay River Valley, as well as the upper Otay area and Proctor Valley. Other areas which contain known cultural resources, or are considered to be archaeologically sensitive, include: the Poggi, Wolf and Telegraph Canyon areas, the lower Otay area, the south Sweetwater area (Janal Ranch area), and other areas where fauna and floral resources would have been available in prehistoric times to support a foraging subsistence pattern.

Many of the historic sites within the Chula Vista area consist of early homesteads and features associated with the late Nineteenth and early Twentieth Century farming activities. Historic homesteads are known to be located in the general Proctor Valley area. Other known homesteads include Bird Ranch and Otay Ranch. Although the Watson-McCoy property was originally a homestead for the McCoy family, it was not identified as a historic site according to the archaeological report. No historic homesteads are located within the project boundary.

### Cultural Resources within the Project Area

As part of the archaeological survey conducted by Affinis for the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project, a cultural resources records search was performed. This search identified that 61 sites have been recorded within one mile of the project site, including 12 sites within the property itself. Other surveys of the site were performed by Gallegos and Strudwick (1991), Pignuolo (1991), and Affinis (2001). Of the 12 sites identified within the project boundary, two of the sites previously recorded within the parcel were not relocated, one site was mismapped and is located several miles from the project site, and three of the sites were combined as one site. This leaves a total of seven sites within the project boundaries of Bella Lago. Of these seven sites, only two (CA-SDI-12,214 and -12,215) are located within the development footprint of the proposed project. The other five sites (CA-SDI-11,043/12,031/12,036, -12,030, 12,032, -12,033, and -12,035) occur in areas planned for permanent open space and would not be disturbed. Table 4.6-1, *Cultural Resources within Bella Lago Project Area*, summarizes the cultural resources identified within the project area.

**TABLE 4.6-1**  
**CULTURAL RESOURCES WITHIN BELLA LAGO PROJECT AREA**

Site Number CA-SDI-	Site Description	Within Development Footprint?	Comments
11,043/12,031/12,036	Historic homestead (early 20 <sup>th</sup> century) and prehistoric lithic scatter	No	The historic component is located outside the Bella Lago Estates project area; the lithic scatters are located within area proposed for permanent open space.
11,393H	Historic site, remains of a foundation and fireplace	No	Site was mismapped and is actually located several miles east of the project area
11,413H	Historic site, structural remains and debris	No (not found)	Site could not be relocated by Gallegos and Strudwick (1991) or by Affinis personnel, apparently mismapped
12,030	Lithic scatter	No	Within area proposed for permanent open space
12,032	Lithic scatter	No	Within area proposed for permanent open space
12,033	Lithic scatter/quarry	No	Within area proposed for permanent open space
12,035	Lithic scatter/quarry	No	Within area proposed for permanent open space
12,214	Lithic scatter/quarry	Yes	Tested; not significant
12,215	Lithic scatter	Yes	Tested; not significant

Source: Affinis 2002

Three of the seven cultural resources sites within the project boundaries have been tested to determine significance under the California Environmental Quality Act (CEQA). The historic component of the site CA-SDI-11,043/12,031/12,036 has been determined to be a significant resource under CEQA. However, this site is located outside of the proposed development footprint for Bella Lago, and the historic component is located outside the project area. As shown by Table 4.6-1, the two cultural sites located within the development footprint of the Bella Lago site, CA-SDI-12,214 and CA-SDI-12,215, were tested and found to be not significant under CEQA.

Two structures appear in the vicinity of the dirt road in the southern portion of the project site on the 1903 USGS map. Backhoe trenching was conducted in July 2002 to look for evidence of these structures. However, no evidence of historic features or cultural material was found.

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

The development envelope associated with Bella Lago, if the project were developed prior to Subarea III of Rolling Hills Ranch, would include the off-site area associated with construction of the roadways through Rolling Hills Ranch (discussed in Section 3, *Project Description*, of this EIR). Therefore, in addition to the environmental setting described above, this scenario describes the existing setting of the adjacent area through Rolling Hills Ranch, of which portions of Neighborhoods 10B and 11 would be impacted by development of Bella Lago.

Cultural resources for Rolling Hills Ranch (formerly known as Salt Creek Ranch) were discussed in the Supplemental EIR for Salt Creek Ranch (SCH #89092721). According to the Supplemental EIR, 27 historic and prehistoric sites were identified in the Rolling Hills Ranch project area. Of these, 18 sites were determined to be important pursuant to CEQA criteria.

#### **4.6.2 Threshold of Significance**

According to Appendix G of the CEQA Guidelines, a project could have a significant effect on cultural resources if the project would:

- ◆ Cause a substantial adverse change in the significance of a historical resource defined in §15064.5;
- ◆ Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5; or,
- ◆ Disturb any human remains, including those interred outside of formal cemeteries.

#### **4.6.3 Impact Analysis**

### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

According to the *Archaeological Resources Survey* (August 2002), seven archaeological sites have been identified within (or partially within) the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project area. Five of the seven sites are within the proposed open space areas and would not be subject to direct impacts from project development. The other two sites (CA-SDI-12,214 and CA-SDI-12,215) are within the proposed development area and could be impacted from project development. Both of these sites are

sparse lithic scatters, with few artifacts noted at the survey level.

A testing program was conducted at CA-SDI-12,214 and CA-SDI-12,215 in July 2002 to assess the significance of both sites and the significance of potential impacts. Testing consisted of the excavation of a series of shovel test pits at each site, which did not identify any subsurface deposits. Test results show that there is little potential for subsurface material at these two sites, and the limited research potential of both sites has been fulfilled by the work conducted for the testing program. No further work is necessary at these sites; the project would not result in significant impacts to CA-SDI-12,214 and CA-SDI-12,215.

Backhoe trenching was used to look for evidence of the structures that appear on the 1903 topographic map; however, no evidence of historic features or cultural material was found. Due to the scale of the 1903 map (1:125,000) and the limitations placed on the backhoe trenching from the presence of a large population of the endangered Otay tarplant, the potential for subsurface historic archaeological material to occur along the existing dirt road, south of the section line remains. A potentially significant impact would occur if unrecorded historical archaeological resources were encountered and disturbed during grading activities for the proposed project.

#### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

If Bella Lago developed prior to Subarea III of Rolling Hills Ranch, the development area would be extended off-site, which would increase the potential for historical and archaeological resources to be encountered during grading activities.

#### **4.6.4 Level of Significance Before Mitigation**

#### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

The proposed project would result in impacts to lithic tool production surface artifacts due to the two archaeological sites known to exist within the proposed development area. These sites have been tested and determined to be not significant under CEQA. The proposed project could also result in significant impacts to unknown subsurface archaeological materials that may be encountered during grading activities for the proposed project. Grading and excavation associated with future construction activities could encounter and affect unknown historical archaeological resources along the existing dirt road, south of the SDG&E easement.

#### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

In addition to the potential impacts identified above, grading and excavation activities associated with construction of the roadways off-site could result in significant impacts to archaeological materials.



#### **4.6.5 Mitigation Measures**

##### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

Unknown historical archaeological sub-surface resources could be impacted along the existing dirt road, south of the SDG&E easement as a result of grading and excavation activities associated with the proposed project. Therefore, the following mitigation is required to reduce potential impacts to below a level of significance.

*Measure 4.6a: A qualified archaeological monitor shall be on-site during initial grading in the mapped area of the two archeological structures that were recorded within the proposed development area. Figure 4.6-1, Area to be Monitored, identifies the area which requires monitoring (approximately 75 feet on each side of the existing dirt road, from the section line south to the southern project boundary).*

*Measure 4.6b: If historic archaeological material is encountered during grading, all grading shall stop and its importance shall be evaluated, and suitable mitigation measures shall be developed and implemented, if necessary. Cultural material collected shall be permanently curated at an appropriate repository, such as the San Diego Archaeological Center.*

##### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

In addition to the mitigation measure identified above, the following mitigation is required to reduce potential impacts to below a level of significance, if development of Bella Lago occurs prior to development of Rolling Hills Ranch Subarea III.

*Measure 4.6c: Prior to approval of first grading permit, the developer of Bella Lago shall review the locations of identified archaeological and historical sites within the Rolling Hills Ranch project boundary. If it is determined that an archaeological and/or historical site is within the area proposed for the roadways, then a qualified archaeological monitor shall be on-site during initial grading in the mapped area of the site(s).*

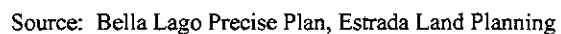
#### **4.6.6 Level of Significance After Mitigation**

##### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

Implementation of the mitigation measure provided in Section 4.6.5 above would reduce any impacts on cultural resources to below a level of significance.

##### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

Implementation of the mitigation measures provided in Section 4.6.5 above would reduce any impacts on cultural resources to below a level of significance.



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## 4.7 TRAFFIC, CIRCULATION AND ACCESS

Linscott, Law and Greenspan (LLG) conducted a Traffic Study for the *Bella Lago Precise Plan, Rezone and Tentative Tract Map* project and documented the results in a report dated July 8, 2002. Information from this report, titled *Traffic Impact Analysis* (the "Traffic Study"), is summarized in this section, and a copy of the report is included as Appendix F of this EIR.

### 4.7.1 Existing Conditions

#### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

The Bella Lago project site is an undeveloped piece of land located within the Eastern Territories Planning Area in the City of Chula Vista. There are no existing roads through the site, and the nearest road is Proctor Valley Road, a County-maintained dirt road, located south of the project site. Figure 4.7-1, *Existing Street System*, shows the existing street system in the project area. This street system is comprised of East H Street, Proctor Valley Road, Otay Lakes Road, Corral Canyon Road/Rutgers Avenue, Mount Miguel Road, Lane Avenue and Hunte Parkway. Each of these streets is briefly described below. Classifications of these roadways are based on the Circulation Element in the City's General Plan. Actual roadway configurations are based on field inspections.

#### **Street Segments**

##### East H Street

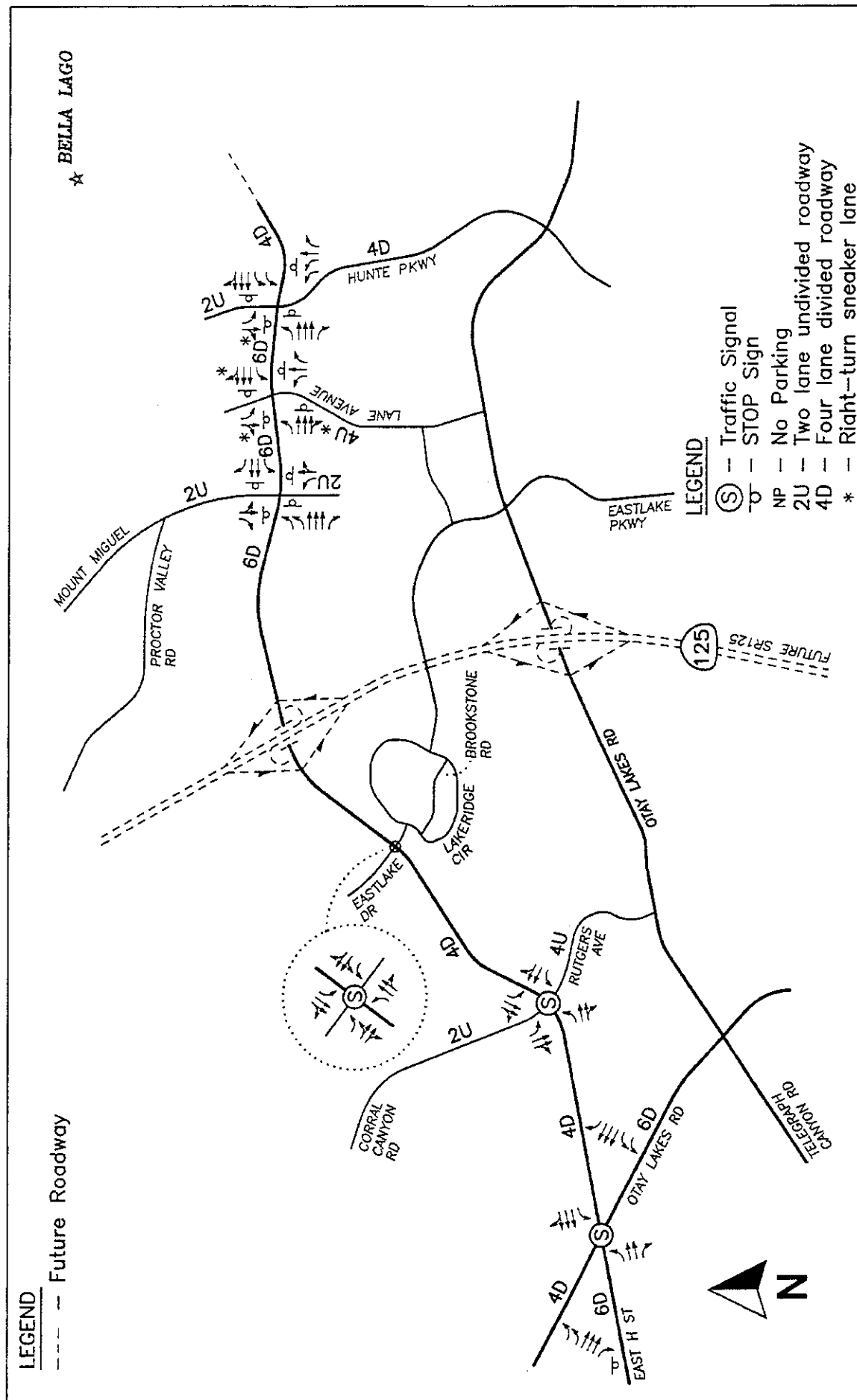
East H Street is classified as a Six-Lane Prime Arterial and has six lanes of divided travel between I-805 and Otay Lakes Road. East of Otay Lakes Road, it is classified as a Six-Lane Major Street and has four lanes of divided travel until Eastlake Drive, where it widens to six-lanes up to Mount Miguel Road/Proctor Valley Road. Bike lanes and bus stops are found on both sides of the road, and on-street parking is prohibited. The speed limit is 50 miles per hour (mph), but drops to 40 mph near I-805 and to 35 mph east of Otay Lakes Road until Eastlake Drive. East H Street becomes Proctor Valley Road east of Mount Miguel Road.

##### Proctor Valley Road

Proctor Valley Road is classified as a Six-Lane Major Road east of Mount Miguel Road, has six lanes of divided travel between Mount Miguel Road and Hunte Parkway, and has four lanes of divided travel east of Hunte Parkway. There are bike lanes on both sides of the road and on-street parking is prohibited. The posted speed limit is 50 mph. Currently, the paved section of Proctor Valley Road ends 0.5 mile east of Hunte Parkway and continues as a dirt road to the east.

##### Otay Lakes Road

Otay Lakes Road is classified as a Six-Lane Prime Arterial, but is currently a Four-Lane Major Arterial that provides north-south access between Bonita Road and Telegraph Canyon Road. At Telegraph Canyon Road, Otay Lakes Road turns to the east.



Source: Microsoft Streets and Trips 2000

Figure 4.7-1  
Existing Street System

### Corral Canyon Road/Rutgers Avenue

Corral Canyon Road is classified as a Two-Lane Collector within the County of San Diego and becomes a Class 2 (Three-Lane) Collector within the City of Chula Vista limits. South of East H Street, Corral Canyon Road becomes Rutgers Avenue, also classified as a Class 2 (Three-Lane) Collector. Currently, two travel lanes are provided north of East H Street and there are four travel lanes south of H Street. Bike lanes exist on both sides of the street and no curbside parking is allowed. The posted speed limit is 40 mph north of East H Street and 25 mph south of East H Street.

### Mount Miguel Road

Mount Miguel Road is classified as a Four-Lane Collector, but is currently a two-lane road. Mount Miguel Road ends immediately to the north of East H Street/Proctor Valley Road; however, the portion north of Proctor Valley Road is currently under construction.

### Lane Avenue

Lane Avenue is classified as a Four-Lane Collector and connects Proctor Valley Road to Otay Lakes Road.

### Hunte Parkway

Hunte Parkway is classified as a Major Road. It is currently a two-lane road north of Proctor Valley Road and a four-lane road south of Proctor Valley Road until Olympic Parkway.

## **Levels of Service (LOS)**

Level of Service (LOS) is a qualitative measure used to describe the operational conditions within a traffic stream and a motorist's and/or passenger's perception of the roadway's performance. LOS is designated a letter from A to F, with LOS A representing the best traffic conditions and LOS F representing the worst conditions. In general, LOS A represents free flow traffic conditions; LOS B represents a stable flow with operating speeds beginning to be affected by traffic volumes; LOS C represents a stable flow with increased restrictions so that speed and maneuverability are more closely controlled by higher traffic volumes; LOS D represents conditions approaching unstable flow, in which traffic volumes profoundly affect arterial flow; LOS E represents unstable flow and some stoppages; and LOS F represents forced flow, many stoppages, and low operating speeds.

### Peak Hour Intersection Levels of Service

Roadway performance is often controlled by the performance of intersections, and more specifically, intersection performance during AM (morning) and PM (evening) peak traffic periods. This is because traffic control at intersections interrupts traffic flow that would otherwise be relatively unimpeded. For this reason, existing AM and PM peak hour operating conditions were evaluated for key intersections in the project area. The AM peak hour is defined as the hour with the highest level of traffic between midnight and noon. The PM peak hour is defined as the hour with the highest level of traffic between noon and midnight.



An intersection LOS analysis was conducted using methods in the 2000 Highway Capacity Manual (HCM) for signalized and unsignalized intersections. Table 4.7-1, *LOS Thresholds for Signalized Intersections*, summarizes the delay thresholds for signalized intersections. In the case of unsignalized intersections, level of service is determined by the computed or measured control delay and is defined for each minor movement. At two-way stop controlled intersections, LOS is measured by the minor street left-turn movement which is considered the primary factor affecting overall intersection performance. Vehicle delay is calculated from the time the vehicle stops at the intersection or the last vehicle in the queue, until the time the vehicle leaves the stop bar. Table 4.7-2, *LOS Thresholds for Unsignalized Intersections*, defines the LOS and average delay time for unsignalized intersections according to the HCM.

**TABLE 4.7-1**  
**LOS THRESHOLDS FOR SIGNALIZED INTERSECTIONS**

Average Control Delay per Vehicle (seconds/vehicle)	Level of Service
0.0 ≤ 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80.0	F

Source: Highway Capacity Manual, 2000.

**TABLE 4.7-2**  
**LOS THRESHOLDS FOR UNSIGNALIZED INTERSECTIONS**

Average Control Delay per Vehicle (seconds/vehicle)	Level of Service	Expected Delay to Minor Street Traffic
0.0 ≤ 10.0	A	Little or no delay
10.1 to 15.0	B	Short traffic delays
15.1 to 25.0	C	Average traffic delays
25.1 to 35.0	D	Long traffic delays
35.1 to 50.0	E	Very long traffic delays
≥ 50.0	F	Severe congestion

Source: Highway Capacity Manual, 2000.

All signalized intersections within the project area are calculated to currently operate at LOS D or better during the AM and PM peak hours. Unsignalized intersections within the project area operate at LOS B or better during AM and PM peak hours.

#### Daily Segment Levels of Service

Levels of service for roadway segments are defined by the City of Chula Vista based on traffic volumes and roadway characteristics. Table 4.7-3, *City of Chula Vista Roadway Capacity Standards*, identifies the City's standards for roadway segment LOS. The daily segment levels of service on key segments within the project area operate at LOS B or better.

**TABLE 4.7-3**  
**CITY OF CHULA VISTA ROADWAY CAPACITY STANDARDS**

ROAD		LEVEL OF SERVICE				
Class	X-Section V/C Ratio	A (0.6)	B (0.7)	C (0.8)	D (0.9)	E (1.0)
Expressway	104/128	52,000	61,300	70,000	78,800	87,500
Prime Arterial	104/128	37,500	43,800	50,000	56,300	62,500
Major Street (6 lanes)	104/128	30,000	35,000	40,000	45,000	50,000
Major Street (4 lanes)	80/104	22,500	26,300	30,000	33,800	37,500
Class I Collector	74/94	16,500	19,300	22,000	24,800	27,500
Class II Collector	52/72	9,000	10,500	12,000	13,500	15,000
Class III Collector	40/60	5,600	6,600	7,500	8,400	9,400

Source: Linscott, Law and Greenspan, 2002

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

The Traffic Study prepared for the proposed project assumes that Bella Lago would be developed after development of Rolling Hills Ranch Subarea III, including construction of roadways within Rolling Hills Ranch that would provide access to Bella Lago (see Figure 3-1). According to the Supplemental EIR prepared for the Rolling Hills Ranch project (SCH #89092721), Rolling Hills Ranch would generate approximately 31,290 vehicles per day with 2,777 AM peak hour trips and 2,986 PM peak hour trips. If Bella Lago developed prior to the development of Rolling Hills Ranch Subarea III, then near-term traffic impacts identified above would be less, because no traffic would be associated with Rolling Hills Ranch Subarea III. Cumulative impacts would not be affected under this scenario, because the cumulative impacts analysis includes foreseeable future projects, such as Rolling Hills Ranch Subarea III.

Internal circulation roadways through Neighborhoods 10B and 11, which provide access to the Bella Lago property, would not be constructed. In order to access Bella Lago under this scenario, developers of Bella Lago must construct off-site access roads, which would connect to East H Street.

### **4.7.2 Threshold of Significance**

The criteria utilized to determine if a traffic impact at an intersection, street segment, or freeway is considered significant is based on City of Chula Vista standards. Both project specific and cumulative project impacts can be significant impacts. Additionally, the criteria differs depending on whether the timing of impacts are near-term or long-term. These criteria are outlined below.

### **Near Term (Study Horizon Year 0 to 4)**

#### **Intersections**

A direct project impact to an intersection would occur if both of the following criteria are met:

1. Level of service is LOS E or LOS F; and
2. Project trips comprise five percent or more of entering volume.

*Measure 4.7b Proctor Valley Road/Lane Avenue - Prior to the approval of the first final map for the project, the developer shall contribute fairshare towards the construction and securing of a fully activated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaries at the Proctor Valley Road/Lane Avenue intersection. The timing of installation and the design of the signal shall be to the satisfaction of the City Engineer.*

*Measure 4.7c Proctor Valley Road/Hunte Parkway - Prior to the approval of the first final map for the project, the developer shall contribute fairshare towards the construction and securing of a fully activated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaries at the East ~~"H" Street~~ Proctor Valley Road/Mount Miguel Road/Hunte Parkway intersection. The timing of installation and the design of the signal shall be to the satisfaction of the City Engineer.*

*Measure 4.7d City GMOC Arterials - Prior to the construction of SR 125, the City shall stop issuing new building permits for Bella Lago, when the City, in its sole discretion, determines either:*

- 1. Building permits for a total of 9,429 dwelling units have been issued for projects east of I-805; or*
- 2. An alternative measure is selected by the City in accordance with the City of Chula Vista Growth Management Ordinance.*

*The start date for counting the 9,429 dwelling units is January 1, 2000. Notwithstanding the foregoing, the City may issue building permits if the City decides in its sole discretion that either traffic studies demonstrate, to the satisfaction of the City Engineer, that the circulation system has additional capacity without exceeding the GMOC traffic threshold standards; other improvements are constructed which provide additional necessary capacity; or the City selects an alternative method of implementing the GMOC standards. These traffic studies would not require additional environmental review under CEQA. However, any improvements proposed in these traffic studies would be subject to additional environmental review as required.*

### **Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III**

If Bella Lago developed prior to Subarea III of Rolling Hills Ranch, the project would be responsible for the mitigation measures identified above, as well as the following measures:

*Measure 4.7e Prior to the approval of the first final map, the applicant shall enter into an agreement with the City of Chula Vista to design, secure, and construct all access to the project from the existing portion of Proctor Valley Road to both access points of the project. The timing of the construction should be to the satisfaction of the City Engineer.*

*Measure 4.7f The developer will implement transportation demand management strategies, including provisions of transit service and bus stops in order to reduce the peak hour demand on the street network.*

**4.7.6 Level of Significance After Mitigation*****Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

The project would contribute less than five percent of the traffic at East H Street/Proctor Valley Road/Mount Miguel Road, Proctor Valley Road/Lane Avenue and Proctor Valley Road/Hunte Parkway intersections; therefore, no significant direct project impacts to traffic would result from the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project.

Significant cumulative impacts are anticipated for intersections only; no significant cumulative impact would occur for street segments. However, compliance with the mitigation measures identified in Section 4.7.5 above would reduce the cumulative impacts to below a level of significance.

***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

With incorporation of the additional mitigation measures identified above, access to the Bella Lago project would be the same as if the property developed after Rolling Hills Ranch. Therefore, the level of significance after mitigation is the same as described above. Significant and cumulative traffic impacts would be reduced to below a level of significance with the incorporation of the mitigation measures identified in Section 4.7.5 above.

## 4.8 HYDROLOGY/DRAINAGE/WATER QUALITY (SURFACE AND GROUNDWATER)

A *Preliminary Drainage Study* dated July 25, 2002, was prepared for the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project by *Nasland Engineering*. The purposes of the study were to predict changes that would occur in the storm water runoff as a result of the project's development, and to propose mitigation measures for potential adverse impacts to storm water runoff quantity and quality. A copy of the *Preliminary Drainage Study* is included in Appendix G to this EIR. In addition, an *Urban Runoff Management Plan* dated September 5, 2002, which provides a water quality protection program for Bella Lago, was prepared by *Dexter Wilson Engineering, Inc.* A copy of the *Urban Runoff Management Plan* is included in Appendix H to this EIR.

Information contained in the *Preliminary Drainage Study* and the *Urban Runoff Management Plan* prepared for Bella Lago have been used to prepare the discussion of potential hydrology, drainage, and water quality impacts presented in this section. The analysis in this section would be the same under the Development of Bella Lago After Development of Rolling Hills Ranch Subarea III and the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenarios.

### 4.8.1 Existing Conditions

The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project site lies entirely within the watershed of the Upper Otay Reservoir and drains either directly or indirectly to the Upper Otay Reservoir. The Upper Otay Reservoir is approximately 8,000 acres in size and is within the drainage basin for Lower Otay Reservoir. The Lower Otay Reservoir covers approximately 62,720 acres.

#### Hydrology

The project site is located on approximately 180 acres northwest of the Upper Otay Reservoir. An intermittent stream runs northeast to southwest in the northwestern portion of the property. The easterly portion of the project site flows into natural drainages that empty into the Upper Otay Reservoir. This adjacent area on the east side is within the limits of the City's Draft MSCP Subarea Plan boundary. Runoff from the westerly and northwesterly portions of the site drain towards the adjacent Rolling Hills Ranch property, a portion of which also flows naturally into the Upper Otay Reservoir. The north end of the Upper Otay Reservoir is located approximately 0.5 mile to the south of the project site.

According to the County of San Diego's Flood Control Department, the 80-year average rainfall rate for the project area is 11.44 inches per year, and the average evaporation rate is 55 inches per year. However, annual rainfall amounts have fluctuated from a low of 7.4 inches to a high of 23.4 inches over the last 25 years. Similarly, elevations for the Upper Otay Reservoir drainage basin vary from a low of 528 feet at Upper Otay Reservoir to 2,555 feet on San Miguel Mountain. Elevations for the project site range from 670 feet AMSL to 1,170 feet AMSL.

#### Drainage

The drainage basin tributary to the Upper Otay Reservoir is approximately 8,000 acres in size. The entire Upper Otay Reservoir Basin is within the drainage basin for Lower Otay Reservoir, which is approximately 62,720 acres in size. The Lower Otay Reservoir is a source of drinking water for residents of the City of San Diego.



The topography of the project site consists of gently rolling hills, with some steeper slopes in the northern portion of the site. The ground slopes generally downward across the site, in a north to south direction. Based on the site's topography the Bella Lago project site is divided into four basins, as shown in Figure 4.8-1, *Existing Drainage Basins*. Drainage Area 1 is 136.6 acres, Area 2 is 10.6 acres, Area 3 is 34.0 acres, and Area 4 is 148.8 acres.

The Bella Lago property is currently undeveloped and does not have any improved drainage facilities on-site. Therefore, runoff from the project site currently flows naturally over undisturbed lands and into the Upper Otay Reservoir. This runoff has an average runoff rate of 0.109 acre-feet per year. Applying this rate to the 180-acre project site, approximately 19.5 acre-feet of runoff flows from the project site in an average rainfall year.

### **Water Quality**

The quality of the runoff from the project site is assumed to be similar to water from the Lower Otay Reservoir, which is where the runoff ultimately ends up. Table 4.8-1, *Summary of Water Quality in Lower Otay Reservoir*, describes the runoff characteristics of the Lower Otay Water Reservoir, which are assumed to be representative of the project site.

#### **4.8.2 Threshold of Significance**

According to Appendix G of the CEQA Guidelines, a project could have a significant effect on hydrology and water quality if it would:

- ◆ Violate any water quality standards or waste discharge requirements;
- ◆ Substantially impact groundwater;
- ◆ Substantially alter the existing drainage pattern of the site or area;
- ◆ Result in runoff that exceeds the capacity of existing or planned stormwater drainage systems;
- ◆ Provide substantial additional sources of polluted runoff; or
- ◆ Expose people or structures to flooding or inundation by seiche, tsunami, or mudflow.

#### **4.8.3 Impact Analysis**

The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would develop a portion (93.1 acres) of a currently undeveloped 180-acre site with residential uses. Development of the site would introduce landscaping, impervious surfaces, and new surface activities to the project area, affecting the existing hydrology, drainage, and water quality of the site. Specific impacts to these areas are discussed below.

The *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project site is located at the base of San Miguel Mountain, approximately 12 miles east of the Pacific Ocean. The project site is located above, and drains towards, the Upper Otay Reservoir. The project site is not within a 100-year flood hazard area, nor is it within an area that would be affected by seiche, tsunami, or mudflow.

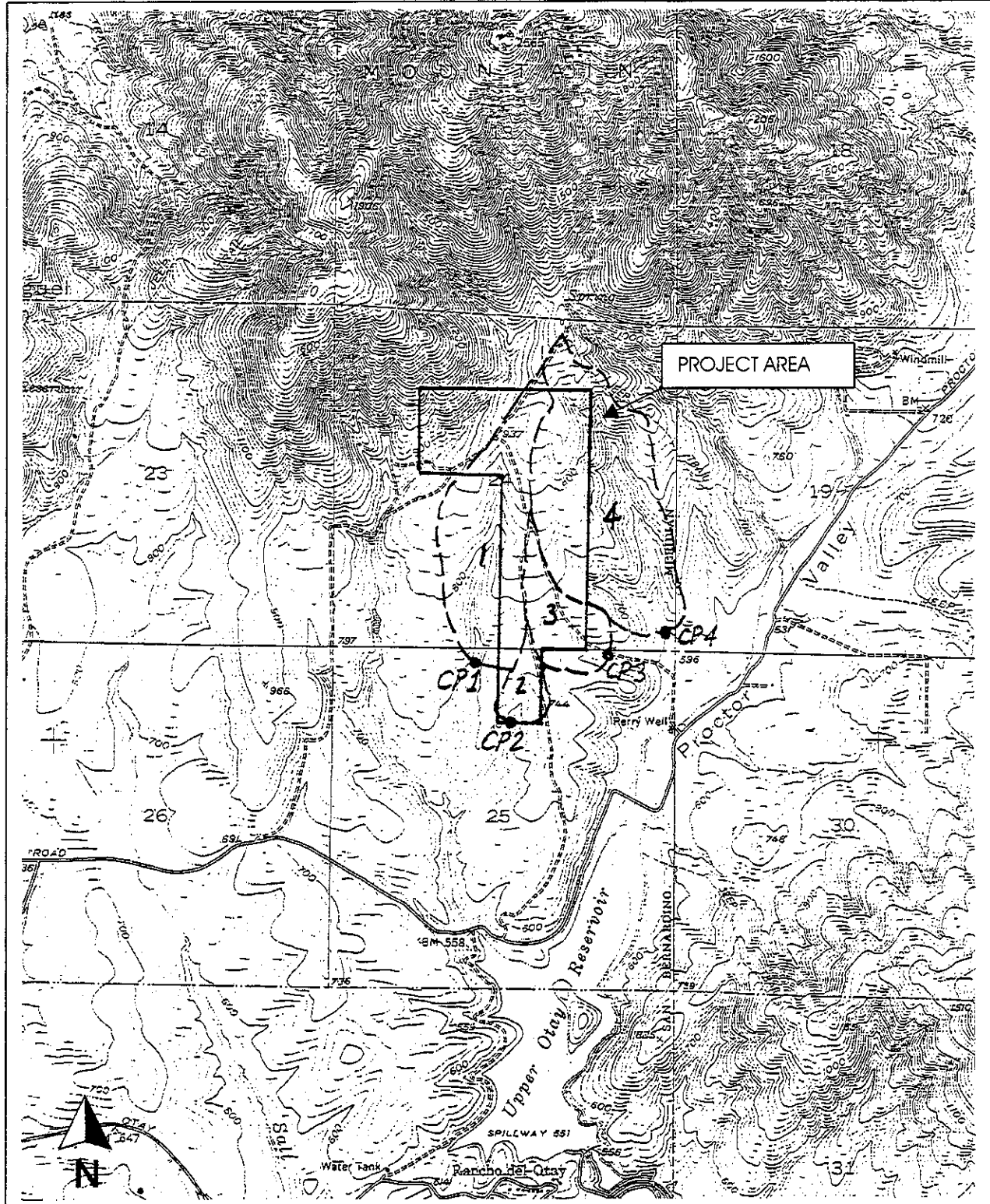


Figure 4.8-1  
Existing Drainage Basins

**TABLE 4.8-1**  
**SUMMARY OF WATER QUALITY IN LOWER OTAY RESERVOIR**

Parameters	Units	Drinking Water Standards (1)		No. of Samples	Raw Water Quality Statistics			
		MCL	SMCL		Min	Max	Mean (2)	Median
General Physical								
Hardness	mg/L			17	112	299	183	199
Alkalinity	mg/L			19	78	78	123	130
Total Dissolved Solids	mg/L		500-1,000	84	300	300	468	502
Conductivity	umho/cm		900-1,600	107	476	476	744	776
PH	Units		6.5-8.5	107	6.5	6.5	8.3	8.4
Turbidity (3)	NTU	0.5		18	0.3	0.3	6.0	1.1
Microbiological (4)								
Total Coliform	MPN	(5)		101	<3	<3	--	28
Fecal Coliform	MPN	(5)		101	<1	<1	--	4
Enterococcus	MPN	(5)		101	<1	<1	--	2
Inorganics								
Aluminum	mg/L	1		15	0.0051	0.0051	0.25	0.025
Antimony	mg/L	0.006		2	0.001	.001	0.0002	0.0002
Arsenic	mg/L	0.05		7	0.0016	0.0016	0.0022	0.002
Barium	mg/L	1	0.05	6	0.037	0.037	0.047	0.047
Beryllium	mg/L	0.004		NA	NA	NA	NA	NA
Cadmium	mg/L			6	<0.0002	<0.0002	<0.0002	<0.0002
Calcium	mg/L			8	29.0	29.0	53.3	52.6
Chloride	mg/L		250	NA	NA	NA	NA	NA
Chromium	mg/L	0.05		NA	NA	NA	NA	NA
Copper	mg/L	1.3	1	14	0.0008	0.035	0.0082	0.0027
Cyanide	mg/L	0.2		NA	NA	NA	NA	NA
Fluoride	mg/L	1.4-2.4		NA	NA	NA	NA	NA
Iron	mg/L		0.3	70	<0.03	2.6	0.014	0.083
Lead	mg/L			11	<0.0005	0.0014	0.00033	0.00025
Magnesium	mg/L			8	1.2	30.1	15.4	15.7
Maganese	mg/L		0.05	43	<0.012	0.44	0.039	0.02
Mercury	mg/L	0.002		9	<0.0002	0.0007	0.00022	0.0001
Nickel	mg/L	0.1		6	0.0009	0.0019	0.0013	0.0012
Potassium	mg/L			15	3.6	5.9	4.4	4.4
Selenium	mg/L	0.05		NA	NA	NA	NA	NA
Silver	mg/L		0.1	NA	NA	NA	NA	NA
Sodium	mg/L			15	43.5	101	75.1	79.8
Sulfate	mg/L		250	NA	NA	NA	NA	NA
Thallium	mg/L	0.02		2	<0.0002	<0.0002	<0.0002	<0.0002
Zinc	mg/L		5	13	<0.0004	0.01	0.0024	0.0009

Notes: (1) MCL and SMCL values shown are the more stringent of the federal or state standards for treated water.  
 (2) Mean calculated using one-half the method detection limit value.  
 (3) Turbidity of treated water not to exceed 0.5 NTU 95% of the time and 5 NTU at any time.

## Drainage

Four drainage basin areas and four concentration points (see Figure 4.8-1, *Existing Drainage Basins*) were used by Nasland Engineering to evaluate the difference between the pre-construction and post-construction storm water peak runoff rates. A 100-year storm event was also used in the evaluation.

Development of the Bella Lago project would alter three of the four drainage basins. Area 1 would decrease in size from 136.6 acres to 130.8 acres. Similarly, Area 3 would be reduced from 34.9 acres to 34.0 acres. Area 2 would increase in size from 10.6 acres to 17.3 acres. Area 4 would remain the same.

## Water Quality

The proposed project would introduce impervious surfaces to the site. Runoff flowing across impervious surfaces can pick up contaminants from landscaping and areas used by motor vehicles, such as parking lots, driveways, and streets. These areas could contribute pollutants such as pesticides or petroleum products to runoff from the project site, which would result in a significant adverse affect on water quality.

Because Bella Lago is within the watershed of the Upper Otay Reservoir, a drainage system that would capture and treat the first-flush and low flow runoff from the developed areas of the site is necessary. As proposed, the site's drainage system would have two components: the "first flush" low flow system, which would collect all runoff in underground drainage structures that allow the first flush (the first 0.65 inches of rainfall) and the low flow (based on 0.2 inches per hour in accordance with the current RWQCB guidelines) to be diverted into the low-flow system; and the primary system, which would direct all runoff in excess of the low flows to existing drainage courses that drain to the Otay River Basin. The drainage system would include fossil filters and/or cyclonic interceptor systems to pre-treat stormwater prior to leaving the site or entering the low flow system.

Three alternatives for the treatment of first flush storm water have been developed for the project. The first alternative would treat the first flush runoff to meet NPDES standards. The second alternative would use constructed infiltration basins to provide a higher level of treatment of low flows. The third alternative would collect the first flush runoff and divert it to the Salt Creek Basin to a wetland area. All of these alternatives are potentially acceptable to the City of Chula Vista.

Development of Bella Lago would alter the existing runoff of the project site, which is considered a significant impact. Basins 1, 3, and 4 would result in a reduced peak runoff due to the small percentage of development that would occur within these larger basins. Basin 2, which is smaller than the other basins, would result in an increased peak runoff. A detention facility, located in Sub-Basin A16, is proposed for Basin 2.

### **4.8.4 Level of Significance Before Mitigation**

Development of Bella Lago would introduce landscaping, impervious surfaces, and new surface activities to currently undeveloped land, which would result in significant impacts to water quality. Surface water runoff would be increased due to the impervious surfaces, and there would be a greater chance for runoff to pick up surface pollutants and deposit them in the Upper Otay Reservoir. In addition, the natural drainage patterns of the site would be permanently altered. Therefore, the project would result in the following

impacts:

- ◆ *Runoff from the developed areas of the project site could adversely impact water quality.*
- ◆ *Development of Bella Lago would impact the peak runoff of the project site.*

#### **4.8.5 Mitigation Measures**

The proposed project would result in significant adverse impacts to water quality as a result of the increase in impervious surfaces and to drainage and hydrology as a result of altering the existing runoff pattern. The following mitigation measures are recommended to reduce impacts on water quality, hydrology and drainage for Bella Lago:

- Measure 4.8a: Prior to approval of the Tentative Map, the developer of Bella Lago shall demonstrate that first flush flows will be diverted to detention/infiltration basins and treated prior to their discharge to existing drainage courses in accordance with the Urban Runoff Management Plan (see Appendix H).*
- Measure 4.8b: Prior to issuance of each grading permit, a detailed drainage system design study shall be prepared in accordance with the City of Chula Vista's standards and shall be approved by the City Engineer.*
- Measure 4.8c: Prior to issuance of each grading permit, the project proponent shall submit an NOI and obtain an NPDES Permit for Construction Activity from SWRCB. Adherence to all conditions of the General Permit for Construction Activity is required. The permit requires development of a SWPPP and a Monitoring Plan for all phases of project construction. The SWPPP shall be incorporated into the grading and drainage design plans and shall provide for implementation of construction and postconstruction BMPs on-site to reduce the amount of pollutants and sediments in construction and postconstruction surface runoff before it is discharged into the natural drainages. The grading plans will note the condition requiring a SWPPP and Monitoring Program Plan. No grading will be performed during the rainy season (October 1 through April 30) without special erosion control measures approved by RWQCB.*
- Measure 4.8d: Prior to construction, all parties involved shall meet to discuss the BMPs required by the erosion control plan and identified in the SWPPP prepared by the contractor pursuant to NPDES. The applicant shall be responsible for implementing, monitoring, and maintaining the required BMPs to ensure that the measures are working properly, until the construction area has been permanently stabilized.*
- Measure 4.8e: Prior to approval of the Tentative Map, the developer shall demonstrate compliance with the City of Chula Vista Storm Water and Discharge Control Ordinance and the National Pollutant Discharge Elimination System (NPDES) Municipal Permit (including the Final Model SUSMP for the San Diego Region). The applicant shall obtain the approval of the City Engineer of a report that includes the following elements:*
- i. Description of project characteristics, site conditions, flow patterns, pollutants emanating from the project site, and conditions of concern.*



- ii. Description of site design and source control BMPs considered and to be implemented.
- iii. Description of applicable treatment control BMPs considered and to be implemented to reduce or treat the identified pollutants.
- iv. Justification for selection of the proposed treatment control BMP(s) including 1) targeted pollutants, justification, and alternative analysis, 2) design criteria (including calculations), 3) pollutants removal information (other than vendors specifications), and 4) literature references.
- v. Site plan depicting locations of the proposed treatment control BMPs; and
- vi. Operation and maintenance plan for the proposed treatment control BMPs

*Measure 4.8f: Prior to issuance of each grading permit, a SWPPP shall be prepared to the satisfaction of the City Engineer to ensure implementation of the BMPs required by the erosion control plan. Potential BMPs that could be used include the following. However, this does not preclude the use of other BMPs that would meet the requirements of the NPDES:*

- i. Short-term placement of sediment trapping facilities such as sand bags, matting, mulch, brush barriers, filters, berms, hay bales, silt fences, and/or sediment pools or other similar devices, along with all pertinent graded areas to minimize off-site sediment transport. Such facilities would likely be required for the base of manufactured slopes, as well as all areas adjacent to, or upstream of, major drainage courses and wetlands.
- ii. Hydroseeding of manufactured slopes following construction, together with provision of adequate water (through irrigation or truck watering) for an appropriate establishment period to be determined by the City Engineer.
- iii. Reclamation of all disturbed areas as soon as practicable after completion of grading.
- iv. Placement of temporary and/or permanent (if applicable) desilting basins, dikes, check dams, sediment basins, riprap, or other appropriate structures at applicable points upstream of all drainage courses and wetlands, or where substantial drainage alteration is proposed.
- v. Placement of energy dissipating structures (e.g., sediment basins, riprap aprons, water bars, or drop structures) at all storm drain, subdrain, and pipe outlets, as well as all drainage crossings, downstream outlets at all culverts and brow ditches, and applicable areas within drainage ditches or swales.
- vi. Use of subdrains in applicable areas to redirect subsurface flows.
- vii. Stabilization of construction vehicle and equipment access points by temporary paving, graveling, and/or use of sediment trapping devices to reduce the movement of sediment onto public roads and rights-of-way.
- viii. Restriction of grading during the rainy season, October 1 through April 30, unless related erosion and sedimentation control measures are implemented to the satisfaction of the City Engineer. Erosion and sedimentation control measures shall be in place a minimum of five days prior to any forecasted rain and shall include, but not be limited to:
  - Silt fencing shall be placed in all locations along the corridor where grading is higher than adjacent natural areas.

- *Silt fencing shall be maintained in a functioning condition until site preparation for the next phase of construction begins.*
- *Sand bags will be used as necessary to ensure that the silt fence adequately maintains its integrity. A solid line of sand bags will be placed on the silt fence adjacent to any body of water or creek.*
- *Construction fencing shall be placed along the corridor to keep vehicles and equipment from inadvertently entering natural areas.*
- *Adequate liners will be used to eliminate the potential for soil migration which might be caused by precipitation from construction areas where there is bare soil.*

*Measure 4.8g: Prior to the approval of the first final map, the developer shall develop a funding mechanism to monitor downstream flows from the project and correct any erosion occurring down stream of the project to the satisfaction of the City Engineer.*

#### **4.8.6 Level of Significance After Mitigation**

The proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project could result in significant adverse impacts to hydrology, drainage, and water quality. However, implementation of the mitigation measures identified in Section 4.8.5 above would reduce impacts to hydrology, drainage, and water quality to below a level of significance. In accordance with City standards and requirements of the Regional Water Quality Control Board, Bella Lago as well as other developments would be required to implement best management practices to reduce impacts to the regional water system. Therefore, the Bella Lago project would not contribute to cumulative impacts on water quality.

## 4.9 GEOLOGY AND SOILS

The analysis presented in this section is based on *The Report of Geotechnical Feasibility Update* dated October 1, 2001, conducted by *Shepardson Engineering Associates, Inc.* (Shepardson) and *The Geotechnical Feasibility Investigation* revised July 26, 1991 by Irvine Consulting Group for the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project. A copy of these studies is included as Appendix H of this EIR.

The analysis in this section would be the same under the Development of Bella Lago After Development of Rolling Hills Ranch Subarea III and the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenarios.

### 4.9.1 Existing Conditions

#### **Geologic Formations**

Three geologic formations underlie the project area: Jurassic Santiago Peak Volcanics, Tertiary Fanglomerate, and Tertiary Otay Formation (see Figure 4.9-1, *Geologic Map*).

#### Jurassic Santiago Peak Volcanics

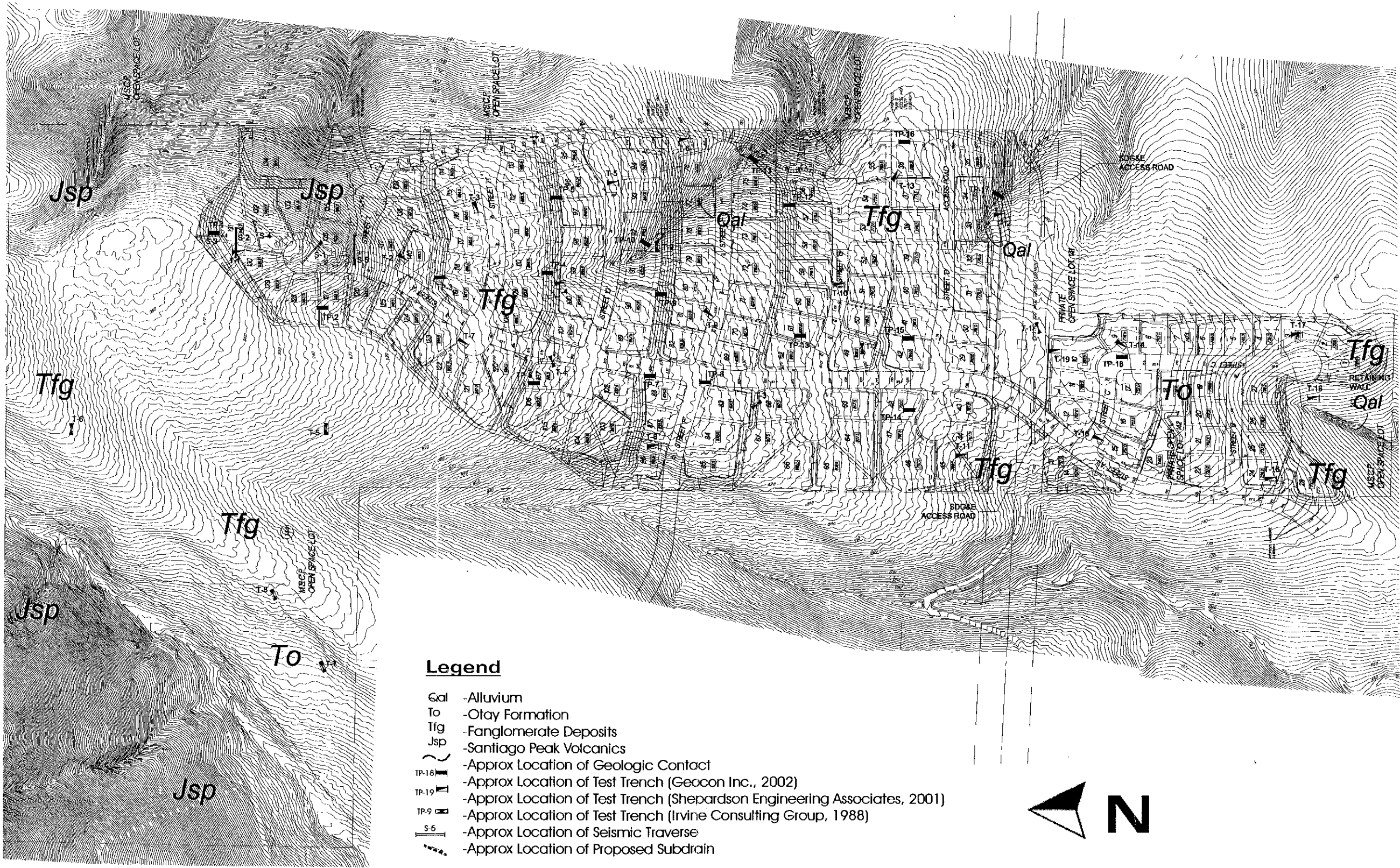
The Jurassic Santiago Peak Volcanics is found in the northeasterly portion of the project site. It is the oldest formation and is composed of hard volcanic, volcanoclastic and sedimentary rocks. The rocks onsite are variable in composition, but are a greenish-gray andesitic or dacitic type rock that weathers to a reddish-brown color. The volcanics are generally very hard at shallow depths and present excavation difficulties to conventional backhoe equipment. During the investigations, volcanics were encountered at depths of 2.5 feet and 4.5 feet.

#### Tertiary Fanglomerate

The Tertiary Fanglomerate, also known as the Sweetwater Formation, covers the majority of the project site, running in a north-south direction. This formation consists of a gravel/cobble/boulder mix embedded in a sandy clay, sandstone matrix, and crops out extensively in the area. The boulders can reach up to 18 inches in maximum dimension. Fanglomerate generally becomes harder and more concentrated with depth. During the investigations, the deepest excavation achieved within the Fanglomerate was 8.5 feet.

#### Otay Formation

The Otay Formation is found in the southerly portion of the site and also underlies a portion of the northwest corner of the site. It consists of a light gray to white coarse sandstone, and is volcanically derived with high bentonite clay content. In general, the sandstone is much softer and easier to excavate than the Fanglomerate deposits.



## Soils

The site is underlain by expansive soils that range from very low to very high, using the characterization rating established by the Uniform Building Code. Residual soils developed on the rocks of the Jurassic Santiago Peak Volcanics formation are a clayey sand/sandy clay that are reddish brown in color. Residual soils developed atop the Tertiary Fanglomerate are clay sand to sandy clay that are medium brown to red brown in color and two to three feet in thickness. Residual soils developed from the Otay Formation are expansive clays that are dark brown to black and two to three feet in thickness. According to the *Geotechnical Feasibility Update*, the highest expansion category is attributed to the matrix of the Otay Formation found in the northwestern portion of the site, and also in some of the topsoil materials. Soils with low expansion characteristics are the sandstones found within the Otay Formation in the southern portion of the site.

According to the Soil Survey for the San Diego Area issued by the United States Department of Agriculture, the project site is underlain by the Olivenhain Association. The Olivenhain Association consists of well-drained, cobbly loams with a very cobbly clay subsoil. These soils range from reddish brown to yellowish brown in color. Specific soils found on the project site include Diablo clay; Olivenhain cobbly loam, two to nine percent slopes and nine to 30 percent slopes; and San Miguel-Exchequer rocky silt loams. These soils are shown in Figure 4.9-2, *Surface Soils*, and their characteristics are discussed below. Table 4.9-1, *Soil Properties*, summarizes the properties of the on-site soils.

**TABLE 4.9-1**  
**SOIL PROPERTIES**

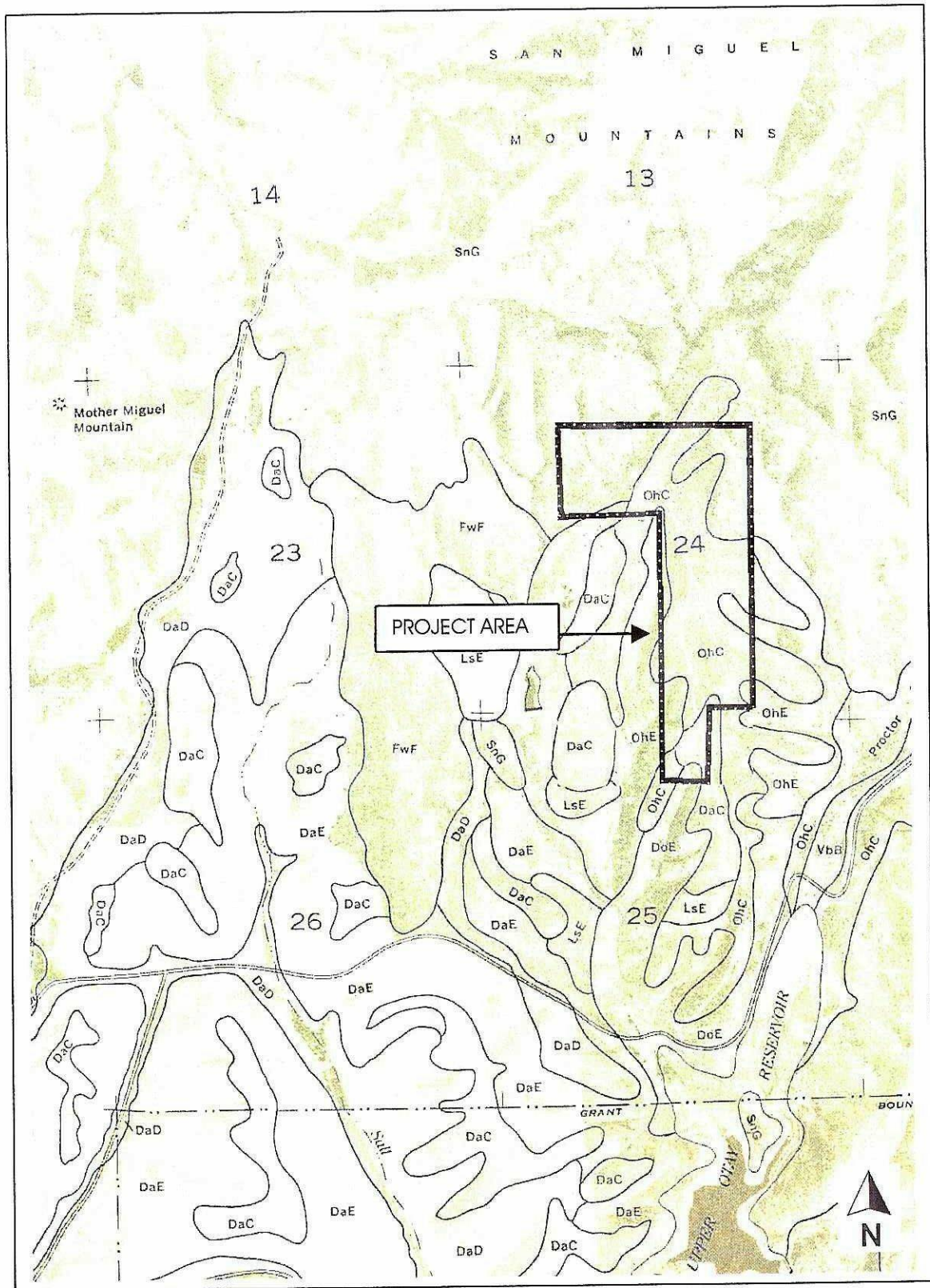
Soil Name	Expansion	Erosion Hazard	Runoff	Sand/Gravel	Topsoil/Roadfill
Diablo clay, two to nine percent slopes (DaC)	High	Slight to Moderate	Slow to Medium	Unsuitable	Poor/Poor
Olivenhain cobbly loam, two to nine percent slopes (OhC)	Moderate	Slight to moderate	Slow to Medium	Unsuitable/Suitable	Poor/Fair to Poor
Olivenhain cobbly loam, nine to 30 percent slopes (OhE)	Moderate	Moderate to High	Medium to Rapid	Unsuitable/Suitable	Poor/Fair to Poor
San Miguel-Exchequer rocky silt loams, nine to 70 percent slopes (SnG)	High - Low	Moderate to Very High	Medium to Rapid	Unsuitable	Poor/Fair to Poor

Source: USDA Soil Survey of San Diego County, 1973.

Diablo clay, two to nine percent slopes (DaC), is found in the southern portion of the project site. This soil is gently sloping to moderately sloping and is 34 to 40 inches deep over rock. DaC soil has a medium to high fertility level, and slow permeability. The available water holding capacity is five to six inches. Runoff is slow to medium, and the erosion hazard is slight to moderate.

Olivenhain cobbly loam, two to nine percent slopes (OhC), is found on the majority of the project site. This soil is gently sloping to moderately sloping and occurs on an average slope of seven percent. This soil has a low fertility level and has very slow permeability. Runoff is slow to medium, and the erosion hazard is slight to moderate. The surface layer is 20 to 30 percent cobblestones, and the subsoil is 35 to 45 percent.





Source: Soil Survey by U.S. Department of Agriculture

Figure 4.9-2  
Surface Soils

Olivenhain cobbly loam, nine to 30 percent slopes (OhE), is found in the southwestern, southeastern, and other small portions of the project site. This soil is strongly sloping to moderately steep and has an effective rooting depth of 20 to 27 inches. The available water holding capacity is two to 2.5 inches. Runoff is medium to rapid, and the erosion hazard is moderate to high.

San Miguel-Exchequer rocky silt loams, nine to 70 percent slopes (SnG), is found in the northwestern and the northeastern portions of the project site. This complex occurs on mountainous uplands, at elevations of 400 to 3,300 feet. The San Miguel soil has a surface layer of light-brown silt loam approximately eight inches thick. The sub-soil is strong-brown and yellowish-brown clay underlain at a depth of approximately 23 inches by hard metavolcanic rock. San Miguel silt loam is slowly permeable in the subsoil and has 2.5 to three inches of water availability and it is moderately permeable. Fertility is very low, drainage is good, runoff is medium to rapid, and the erosion hazard is moderate to very high.

The on-site soils have been found to have a variety of erosion hazard levels, expansion levels, moderate to high shrink-swell activity and potential for differential expansion or compression. Erosion hazards are also present on the hillside soils.

## Faults and Seismicity

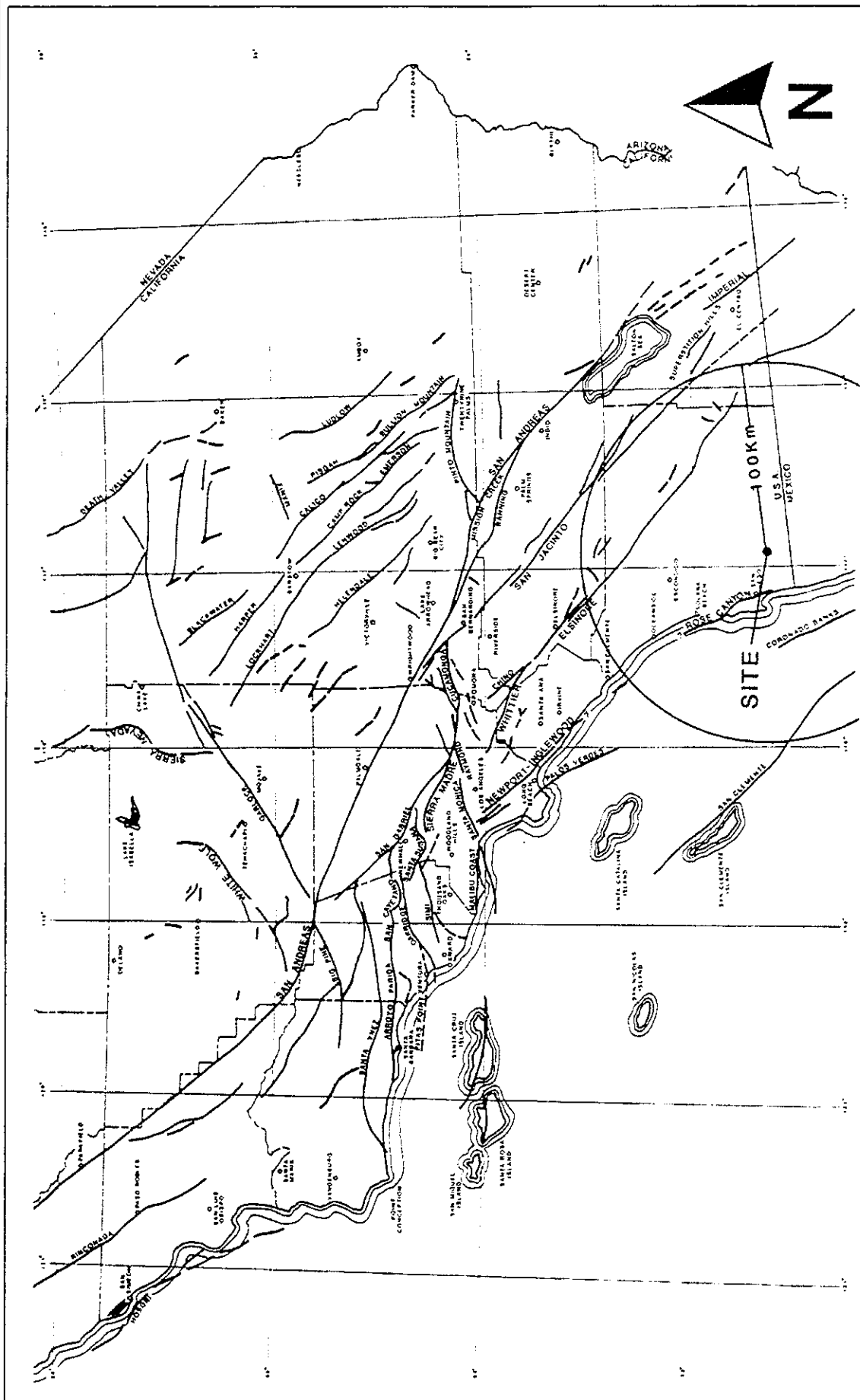
The San Diego area is characterized by Quaternary age fault zones which consist of multiple faults that generally strike in a northerly to northwesterly direction (see Figure 4.9-3, *Regional Fault Map*). Some of these fault zones are active, while others are inactive. Active faults are defined as those which have shown evidence of faulting during the Holocene, or within the last 11,000 years.

There are no faults running through or adjacent to the project site, and seismic risk is considered low to moderate. The nearest, active fault zone to the project site is Rose Canyon Fault, located approximately 12 miles to the west. Other active fault zones which could produce ground shaking effects at the project site include the Coronado Bank Fault Zone, located 23 miles to the west, and the Elsinore Fault Zone, located approximately 49 miles to the northeast. Other more distant fault zones are located to the north and northeast. These fault zones are summarized in Table 4.9-2, *Seismic Source Summary*, below.

**TABLE 4.9-2**  
**SEISMIC SOURCE SUMMARY**

Source Name	Maximum Magnitude ( $M_w$ )	Estimated Slip Rate (mm/year)	Estimated Length (miles)	Estimated Distance to Site (miles) <sup>1</sup>
Rose Canyon	6.9	1.5	50	12
Coronado Bank	7.4	3.0	240	23
Elsinore-Julian	7.1	5.0	126	36
Earthquake Valley	6.5	2.0	20	40
Newport-Inglewood offshore	6.9	1.5	66	44
Elsinore (Temecula)	6.8	5.0	26	49
Elsinore (Coyote Mtn.)	6.8	4.0	38	39

<sup>1</sup> The distances shown in this table are measured from the site to the faults modeled as linear segments; these distances may be slightly different from the actual distance from the site to mapped faults.



Source: Geotechnical Feasibility Investigation

Figure 4.9-3  
Regional Fault Map

## **Landslide Hazards**

No landslide hazards were identified within the project limits, and the risk is very low for shallow or deep-seated landslide movement. Landslides would not adversely affect the proposed project.

### **4.9.2 Threshold of Significance**

According to Appendix G of the CEQA Guidelines, a project could have a significant effect on geology and soils if it would:

- ◆ Expose people or structures to potential substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides;
- ◆ Result in substantial soil erosion or the loss of topsoil; or
- ◆ Be located on expansive soils or on a geologic unit or soil that is unstable, or that would become unstable as a result of the project.

### **4.9.3 Impact Analysis**

The proposed project would involve the construction of 140 single-family residential units. Grading and excavation activities for the proposed homes would occur in the southern portion of the site, where it is the flattest. The remainder of the site would be dedicated to open space.

## **Expansive Soils**

Expansive soils may result in significant adverse impacts to structural slabs and foundations and roadways due to their swelling. Expansive soils are a common occurrence throughout San Diego County and special design features can be used to mitigate any detrimental effects. Due to expansive soils, a post-tension slab system may be the most appropriate system for the proposed residential structures. Similarly, the project may require thicker pavement structural sections for the roadways due to the clayey nature of the on-site soils. Specific design parameters would be developed during the comprehensive geotechnical investigation that would be conducted for the project.

Expansive soils may also lead to adverse effects associated with cut and fill slopes such as slope creep. Structures would need to be setback away from the top of descending cut and fill slopes due to expansive soils. In addition, specific setback values and other recommendations for appurtenant structures near slopes should be established for the project.

## **Rock Excavation**

Excavation of the project site may result in potentially significant impacts. The greatest potential for problems during excavation are the Santiago Peak Formation materials in the northern portion of the site because the in-place rock is difficult to excavate. Difficulties during excavations within the Fonglomerate Formation may also be encountered due to the presence of large size boulders and the cemented nature of the matrix. Blasting may be required for both of these formations in order to facilitate excavation and create suitable fill materials. Since there are no residences or buildings adjacent to or surrounding the project site, noise impacts from blasting are not considered significant (see Section 4.4, *Noise*, of this EIR).

The Otay Formation, found in the southern portion of the site, is expected to be relatively easy to excavate. During the exploration of the site by Shepardson, the clayey sandstone of the formation allowed relatively easy excavation by backhoe excavating equipment used. Therefore, no blasting is expected to be necessary for excavation activities in the portions of the project site underlain by the Otay Formation.

### **Fill Suitability**

The excavated material is expected to be reused as fill for the project site. The materials excavated from the Santiago Peak Formation are expected to produce rock fragments with very little fines, and would need to be intermixed with soil materials taken from other areas of the site in order to provide suitable material for use in fills. The materials excavated from the Fanglomerate Formation produce a clayey matrix that has a medium expansion potential. The materials from the Otay Formation would be excavated as sand with varying amounts of clay and should be suitable for reuse as fill. In addition, the materials from the Otay Formation would be the best suited on-site material to intermix with the Santiago Peak formational material.

Depending on the size of the excavated materials from the Santiago Peak and Fanglomerate Formations, some blasting may be necessary to downsize the materials to be suitable for placement in fills. Fill material less than 12 inches is preferred, however, material up to two feet can be handled in limited quantities within certain areas of the proposed fill matrix. Selective grading may be necessary to place the more expansive materials in the deeper portions of the fill (below five feet); however, no impacts concerning fill materials are expected.

### **Slope Ratios**

A slope gradient of two horizontal to one vertical (2:1) is expected to provide a sufficient factor of safety against deep-seated or shallow surficial failure. Fill and cut slopes should not exceed the 2:1 ratio. However, while not expected to occur, there is a possibility that slope excavations could encounter adverse bedding planes or weakened shear planes. If adverse bedding planes or weakened shear planes are encountered, some form of stabilization, such as facial buttresses, would be required.

### **Ground Shaking and Landslides**

The project site is located in the eastern portion of Chula Vista at the base of San Miguel Mountain. No faults run through or adjacent to the project site, and the nearest, active fault zone to the project site is Rose Canyon Fault, located approximately 12 miles to the west. Ground shaking effects could also be produced at the project site from Rose Canyon Fault and other surrounding, active fault zones which include the Coronado Bank Fault Zone, located 23 miles to the west, and the Elsinore Fault Zone, located approximately 49 miles to the northeast. However, due to the distance of the project site from active fault, seismic risk is considered low to moderate and no significant, adverse impacts are anticipated to occur. Furthermore, all buildings would be constructed in accordance with the Uniform Building Code.

The project site is also located in an area with low landslide risks. No landslide hazards have been identified within the project limits. Landslides would not adversely affect the proposed project.



#### **4.9.4 Level of Significance Before Mitigation**

The project site is underlain by expansive soils, and portions of the site are within the Santiago Peak Formation and Fanglomerate Formation. Due to the swelling characteristics of expansive soils and the difficulty in excavating Santiago Peak Formation and Fanglomerate Formation materials, the project would result in the following potentially significant impacts associated with geology and soils that require mitigation.

- ◆ Expansive soils may adversely impact structural slabs and foundations and roadways due to their swelling characteristics.
- ◆ The adverse effects of slope creep or lateral fill extension may occur with expansive soil fills and cuts.
- ◆ Underlying rock characteristics may impact excavation activities.
- ◆ Slope excavations could encounter adverse bedding planes or weakened shear planes, which would require some form of stabilization, such as facial buttresses.

#### **4.9.5 Mitigation Measures**

The following mitigation measures are recommended for impacts to geology and soils:

- Measures 4.9a Prior to the issuance of each grading permit, a subsequent geotechnical investigation of the site shall be performed and appropriate mitigation measures to attenuate the adverse expansive soil characteristics identified. Mitigation measures may include the use of select grading to place the more highly expansive soils at greater depth within the fill; the use of post-tension slab foundation systems and elevated moisture conditioning of the subgrade; or a combination of the two measures.*
- Measure 4.9b The geotechnical investigation shall include specific setback values and other recommendations for appurtenant structures near slopes to attenuate for the adverse effects of slope creep or lateral fill extension that can occur with expansive soil fills and cuts.*
- Measure 4.9c A rippability investigation utilizing geophysical methods shall be conducted as part of the comprehensive geotechnical investigation program.*
- Measure 4.9d The engineering geologist shall inspect the slope excavations to ensure that bedding planes or weakened shear planes are not encountered.*
- Measure 4.9e Prior to the issuance of each grading permit, the applicant shall verify that the applicable recommendations of the geotechnical investigations prepared by Shepardson, dated October 1, 2001, and Irvine Consulting Group, dated July 26, 1991, for the Bella Lago property have been incorporated into the project design and construction documents to the satisfaction of the City Engineer of the City of Chula Vista.*

**4.9.6 Level of Significance After Mitigation**

The proposed project would result in potential significant impacts due to the expansive soils and underlying rock characteristics of the site. However, mitigation measures provided in Section 4.9.5, above, would reduce impacts to below a level of significance.

## 4.10 PALEONTOLOGICAL RESOURCES

The analysis in this section would be the same under the Development of Bella Lago After Development of Rolling Hills Ranch Subarea III and the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenarios.

### 4.10.1 Existing Conditions

The potential for the presence of fossil remains is directly associated with the types of geological formations underlying a particular site. Geologic formations are ranked as having zero, low, moderate, or high sensitivity relative to the potential for presence of fossil remains. Three geologic formations underlie the project area: Jurassic Santiago Peak Volcanics, Tertiary Fanglomerate, and Tertiary Otay Formation (see Figure 4.9-1, *Geologic Map*).

#### Jurassic Santiago Peak Volcanics

The Jurassic Santiago Peak Volcanics is found in the northeasterly portion of the project site. It is the oldest formation and is composed of hard volcanic, volcanoclastic and sedimentary rocks. The rocks onsite are variable in composition, but are a greenish-gray andesitic or dacitic type rock that weathers to a reddish-brown color. The volcanics are generally very hard at shallow depths. In some areas, slightly-to-moderately metamorphosed marine mudstones and sandstones appear to be interbedded with the volcanic rocks. Uranium-lead radiometric dates on the volcanic flow-rocks of the Santiago Peak Volcanics have yielded earliest Cretaceous ages, approximately 120 to 130 million years ago (Ma). The Santiago Peak Volcanics were altered during formation of the vast volumes of early Cretaceous plutonic rocks. During the investigations, volcanics were encountered at depths of 2.5 feet and 4.5 feet. Residual soils developed on these rocks are a clayey sand/sandy clay that are reddish brown in color.

#### Tertiary Fanglomerate

The Tertiary Fanglomerate, also known as the Sweetwater Formation, covers the majority of the project site, running in a north-south direction. This formation can also be identified as the basal angular conglomerate unit, or base/lower unit of the Otay Formation, which is described below. The Tertiary Fanglomerate consists of a gravel/cobble/boulder mix embedded in a sandy clay, sandstone matrix, and crops out extensively in the area. The boulders can reach up to 18 inches in maximum dimension. Fanglomerate generally becomes harder and more concentrated with depth. During the investigations, the deepest excavation achieved within the Fanglomerate was 8.5 feet. Residual soils developed atop the Fanglomerate are clay sand to sandy clay that are medium brown to red brown in color and two to three feet in thickness.

#### Otay Formation

The Otay Formation is found in the southerly portion of the site, and also underlies a portion of the northwest corner of the site. The Otay Formation is a fluvial sedimentary rock unit from the late Oligocene age (approximately 29 Ma). This formation can be divided into three members: a basal angular conglomerate unit or a base/lower unit (also referred to as the Tertiary Fanglomerate); a middle gritstone unit; and an upper sandstone-mudstone unit. The basal angular conglomerate unit, or base/lower unit, is characterized as a poorly-sorted, cobble to boulder fanglomerate. The middle unit consists of interbedded coarse-grained sandstones and angular gravels (gritstone). Typical exposures of the upper unit are made up

of gray-white, medium-grained, tuffaceous sandstone, with interbedded layers of brown and red-brown claystones and white waxy bentonites. Bentonites are an absorbent aluminum silicate clay formed from volcanic ash. The formation becomes finer grained from bottom to top with the base/lower unit grading upward and westward into the gritstone unit, which in turn grades upward and westward into the sandstone-mudstone unit. Residual soils developed from the Otay Formation are expansive clays that are dark brown to black and two to three feet in thickness. The Otay Formation may be up to 400 feet thick when the units are measured together, but at any one location the formation is typically less than 120 feet thick.

### Paleontology

No fossils are recorded from the base/lower unit of the on-site geologic formations (Tertiary Fanglomerate). However, there have been numerous fossil localities discovered in the upper sandstone-mudstone member and the middle gritstone member of the Otay Formation. Prior to residential and commercial development in the eastern Chula Vista area, the Otay Formation was not known to be fossiliferous. Fossils from the formation discovered during development of the Eastern Territories include well-preserved remains of a diverse assemblage of terrestrial vertebrates such as tortoise, lizards, snake, birds, shrews, rodents, rabbit, dog, fox, rhinoceros, camels, mouse and deer. Based on these recent discoveries, the Otay Formation is now considered to be the richest source of late Oligocene terrestrial vertebrates in California.

The Otay Formation is exposed throughout the southwestern portion of the Coastal Plain Region, from State Route 94 (SR-94) south to the International Border, and from I-805 east to the base of the San Ysidro Mountains and San Miguel Mountain. Extensive exposure of the lower fanglomerate portion of the formation occurs in the area around Lower Otay Lake. It is also found in patches along the north side of the San Ysidro Mountains as far east as Sycamore Canyon.

The molten origin of the Santiago Peak Volcanics precludes the possible discovery of fossil remains. However, some of the volcanic breccias contain petrified wood, as in other parts of San Diego County (i.e., Mira Mesa and near Rancho Santa Fe). Certain exposures of the metasedimentary portion of this formation have produced important remains of siliceous microfossils and marine macroinvertebrates including belemnites and clams.

The Santiago Peak Volcanics are exposed in a discontinuous belt in the western foothills of the Peninsular Ranges. Examples of the metavolcanic portion of this formation crop out in the San Ysidro and Jamul mountains, and at San Miguel Mountain, Rock Mountain (in Otay Valley), and Black Mountain. Examples of the metasedimentary component of the Santiago Peak Volcanics crop out in Los Penasquitos Canyon, Lusardi Canyon, La Zanja Canyon, Circo Diegueno Canyon, and the San Dieguito River Gorge.

### Resource Sensitivity

The upper sandstone portion of the Otay Formation has produced extremely important vertebrate fossil remains. Therefore, the upper sandstone unit is considered to have a high paleontological resource sensitivity. The lower gritstone and fanglomerate portion of the formation has produced vertebrate fossils from only a few localities. These units are considered to have a moderate resource sensitivity.

The metasedimentary rocks of the Santiago Peak Volcanics, cited above, can be assigned a high paleontological resource sensitivity. The bulk of this formation (i.e., the metavolcanic portion) is assigned a marginal paleontological resource sensitivity.

#### **4.10.2 Threshold of Significance**

According to Appendix G of the CEQA Guidelines, the proposed project could have a significant effect on paleontological resources, if it would:

- ◆ Directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

#### **4.10.3 Impact Analysis**

As mentioned above, portions of the proposed project site are underlain by geologic formations known to contain important paleontological resources. The Otay Formation is known to be fossiliferous and exhibit moderate resource sensitivities. The Santiago Peak Volcanics has a high paleontological resources sensitivity in the metasedimentary rocks. The proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would involve grading activities that could result in potentially significant impacts to paleontological resources. Therefore, mitigation would be required.

No impacts are expected with grading and excavation of the Tertiary Formation, due to its low resource potential. Due to the residential character of the Bella Lago project, once grading and site excavation have occurred, the project would not result in additional impacts to paleontological resources.

#### **4.10.4 Level of Significance Before Mitigation**

Grading activities associated with the development of Bella Lago would affect portions of the Otay and Santiago Peak Volcanic formations. A potentially significant impact to paleontological resources could occur if unknown paleontological resources were encountered during construction activities.

#### **4.10.5 Mitigation Measures**

The proposed project could result in impacts to paleontological resources as a result of construction activities associated with the development of the proposed residential development in areas underlain by the Otay Formation and Santiago Peak Volcanics. The following measures would be implemented to reduce potential significant impacts to a below level of significance. These measures are required for all areas within the Otay Formation that have not previously been disturbed and in which grading is proposed.

##### *Measure 4.10a*

- ◆ *Prior to issuance of any on-site (or off-site) grading permits, the applicant shall confirm to the City of Chula Vista that a qualified paleontologist has been retained to carry out the following mitigation program. The paleontologist shall attend pregrade meetings to consult with grading and excavation contractors. (A qualified paleontologist is defined as an individual with an MS or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques.)*
- ◆ *A paleontological monitor shall be on-site at all times during the original cutting of previously undisturbed sediments of highly sensitive geological formations (Otay and Santiago Peak Volcanics) to inspect cuts for contained fossils. The paleontological monitor shall work under the direction of a qualified paleontologist. The monitor shall*



*periodically (every several weeks) inspect original cuts in deposits with an unknown resources sensitivity. (A qualified paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials).*

- ◆ *If fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In instances where recovery requires an extended salvage time, the paleontologist (or paleontological monitor), shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Where deemed appropriate by the paleontologist (or paleontological monitor). A screen-washing operation for small fossil remains shall be set up.*
- ◆ *Prepared fossils, along with copies of all pertinent field notes, photographs, and maps, shall be deposited (with the applicant's permission) in a scientific institution with paleontological collections such as the San Diego Natural History Museum. A final summary report shall be completed which outlines the results of the mitigation program. This report shall include discussion of the methods used, stratigraphy exposed, fossils collected, and significance or recovered fossils.*

#### **4.10.6 Level of Significance After Mitigation**

Implementation of the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project could potentially adversely impact paleontological resources associated with the Otay Formation and the Santiago Peak Volcanics. However, mitigation measures provided in Section 4.10.5 above would reduce impacts to below a level of significance.

## 4.11 UTILITIES AND PUBLIC SERVICES

Utilities and public services are those functions which serve residents on a community-wide basis. These functions include sewer and water services, police, fire and emergency response services, parks and recreation, schools, libraries, solid waste disposal, and gas and electric, cable and telephone services. Future residents of and visitors to the proposed project would require use of these facilities and services. Figure 4.11-1, *Public Services*, provides the locations of the public services that would serve the proposed project.

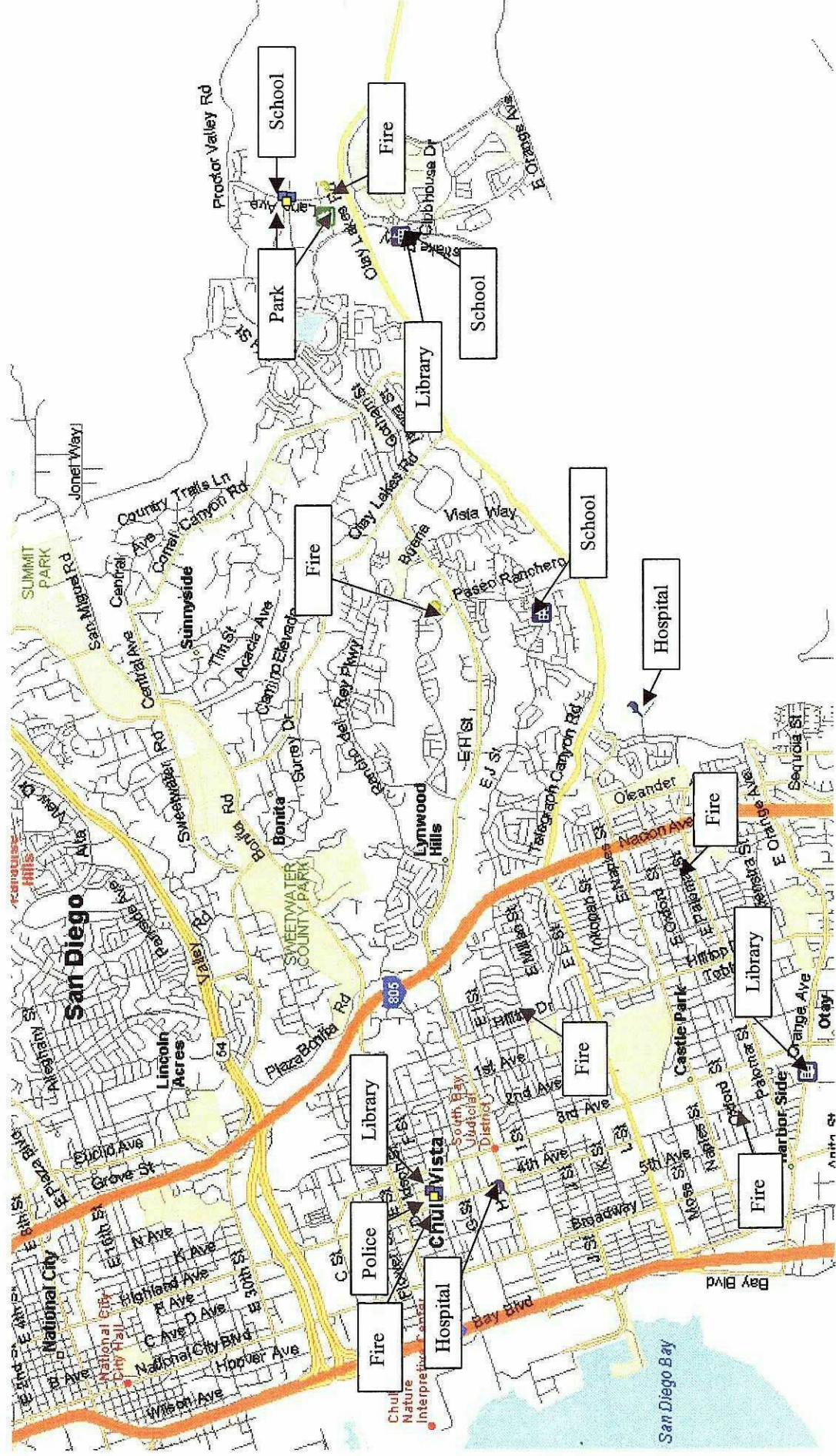
Provision of utilities and public services are guided by the City of Chula Vista's Threshold Standards Policy, which was adopted by City Council in November 1987. This policy establishes quality of life standards, which must be considered and evaluated when any new development project is proposed. The purpose of the policy is to ensure that the project will comply with each standard, thereby allowing the City of Chula Vista to maintain its excellent quality of life. Standards were developed by the Threshold Standards Policy for the following 11 facilities:

- ◆ Police;
- ◆ Fire and Emergency Medical;
- ◆ Schools;
- ◆ Libraries;
- ◆ Parks and Recreation Areas;
- ◆ Water;
- ◆ Sewer;
- ◆ Drainage;
- ◆ Traffic;
- ◆ Air Quality; and
- ◆ Fiscal.

In 1990, the City adopted a Growth Management Element as part of its General Plan. The Growth Management Element further refined the Threshold Standards Policy and establishes additional policies addressing open space and natural resources, regional growth issues, and economic development issues. In 1991, the City of Chula Vista Growth Management Program policy and ordinance was adopted. This combined all related Growth Management policies into a single policy document and further refined the implementation process as it relates to the review and approval of individual development projects.

Included as part of the original Threshold Standards Policy, the Growth Management Program requires the cumulative impacts of growth to be evaluated on an annual basis by a Growth Management Oversight Committee (GMOC). The GMOC is comprised of nine citizens, including a representative from the Planning Commission and representatives from various interest groups and geographic areas of the City. The GMOC is responsible for annually reviewing the Growth Management Program, preparing an annual report that includes the committee's findings and recommendations, and submitting the report to the Planning Commission and City Council.

The following discussion deals with the potential impacts that the proposed Bella Lago project would have upon utilities and public services. Information presented in this section has been provided by utility companies and public service providers and is addressed through letter responses and phone conversations, located in Appendix I. Additional information regarding sewer services was obtained from the *Overview of Sewer Service for the Bella Lago Project*, prepared by *Dexter Wilson Engineering, Inc.*, dated May 16, 2002 (Appendix J). Information regarding water services was obtained from the *Overview of Water Service for the Bella Lago Project*, dated January 30, 2002, also prepared by *Dexter Wilson Engineering, Inc.* (Appendix K).



Source: Microsoft Streets and Trips 2000

## **Fiscal**

The fiscal threshold standard requires that the GMOC be provided with an annual fiscal impact report and an annual development impact fee report, and is not applicable at the project level. Therefore, no evaluation of the project's compliance with this standard is necessary.

## **PFFP**

The applicant has prepared a fiscal impact analysis for the project which has been summarized in the Public Facilities Financing Plan (PFFP) section of the Bella Lago Precise Plan.

## **Air Quality Improvement Plan**

An air quality improvement plan (AQIP) has been prepared for the project, which addresses air quality for the project area. A summary of the AQIP for *the Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project has also been prepared. The AQIP states that the developer will implement the *ComfortWise<sup>SM</sup>*, *SDGE CA EnergyStar<sup>SM</sup>*, or custom *Community Energy Efficiency Program* (CEEP) building program on all units within the project. The energy requirements for the CEEP programs are designed to be at least 15 percent more energy efficient than the California Title 24 energy code. In addition, design features incorporated into the Bella Lago project would help reduce CO<sub>2</sub> emissions within the project.

### **4.11a SEWER SERVICES**

Information regarding sewer service for Bella Lago was provided by public service providers (see Appendix I) and the *Overview of Sewer Service for the Bella Lago Project*, prepared by *Dexter Wilson Engineering, Inc.*, dated May 16, 2002 (Appendix K).

#### **4.11a.1 Existing Conditions**

##### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

The Bella Lago project site ranges in elevation from 670 feet to 1,170 feet above mean sea level. The site drains naturally in a generally north to south direction. The entire project site is within the Upper Otay Reservoir watershed and would require pumping to convey sewage flow to the Salt Creek Basin, which is located east of the project site.

Sewer service to the project site is provided by the City of Chula Vista; however, there are no existing sewer facilities in the proposed project site or in the project vicinity. The nearest sewer facilities are located within the Rolling Hills Ranch project area. The Rolling Hills project is an approved residential subdivision located adjacent to the southwest boundary of the project site, as shown in Figure 4.11-2. The Rolling Hills Ranch project has constructed sewer facilities easterly in Proctor Valley Road to allow the eastern portion of that project to pump sewage from the Otay Lakes Basin to the Salt Creek Basin.



***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

If development of Bella Lago precedes development approved for Rolling Hills Ranch, developers of Bella Lago would be required to extend roadways planned for Rolling Hills Ranch in order to provide access to Bella Lago. Sewer facilities would also be required to be constructed within the roadway rights-of-way in order to provide sewer service to Bella Lago. As stated above, sewage from Neighborhoods 10B and 11 is pumped westerly to the Salt Creek Basin through sewer facilities in Proctor Valley Road.

**4.11a.2 Threshold of Significance**

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on sewer services if it would:

- ◆ Exceed wastewater treatment requirements of the San Diego Regional Water Control Board;
- ◆ Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- ◆ Require sewer service where additional sewage treatment capacity is not presently available; or
- ◆ Result in the deterioration of the quality of service provided to the area.

Additionally, the City's Threshold Standards Policy require the following:

1. Sewage flows and volumes shall not exceed City Engineering Standards as set forth in the Subdivision Manual adopted by City Council Resolution Number 11175 on February 12, 1983, as may be amended from time to time.
2. The City shall annually provide the San Diego Metropolitan Sewer Authority with a 12 to 18 month development forecast and request confirmation that the projection is within the City's purchased capacity rights and an evaluation of their ability to accommodate the forecast and continuing growth, or the City Engineering Department staff shall gather the necessary data.

**4.11a.3 Impact Analysis**

***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

The proposed project would involve the construction of 140 single-family residential units. The proposed residential units would result in an estimated generation rate of 265 gallons per day (gpd) per unit, and the projected sewage flow for the project would be 37,100 gpd. A peak flow is when weather flow is at its greatest intensity. When calculating the peak flow of the proposed residential development, the projected flow is multiplied by 2.5. Using a peak factor (greatest intensity) of 2.5, the projected peak wet weather flow is 92,750 gpd.



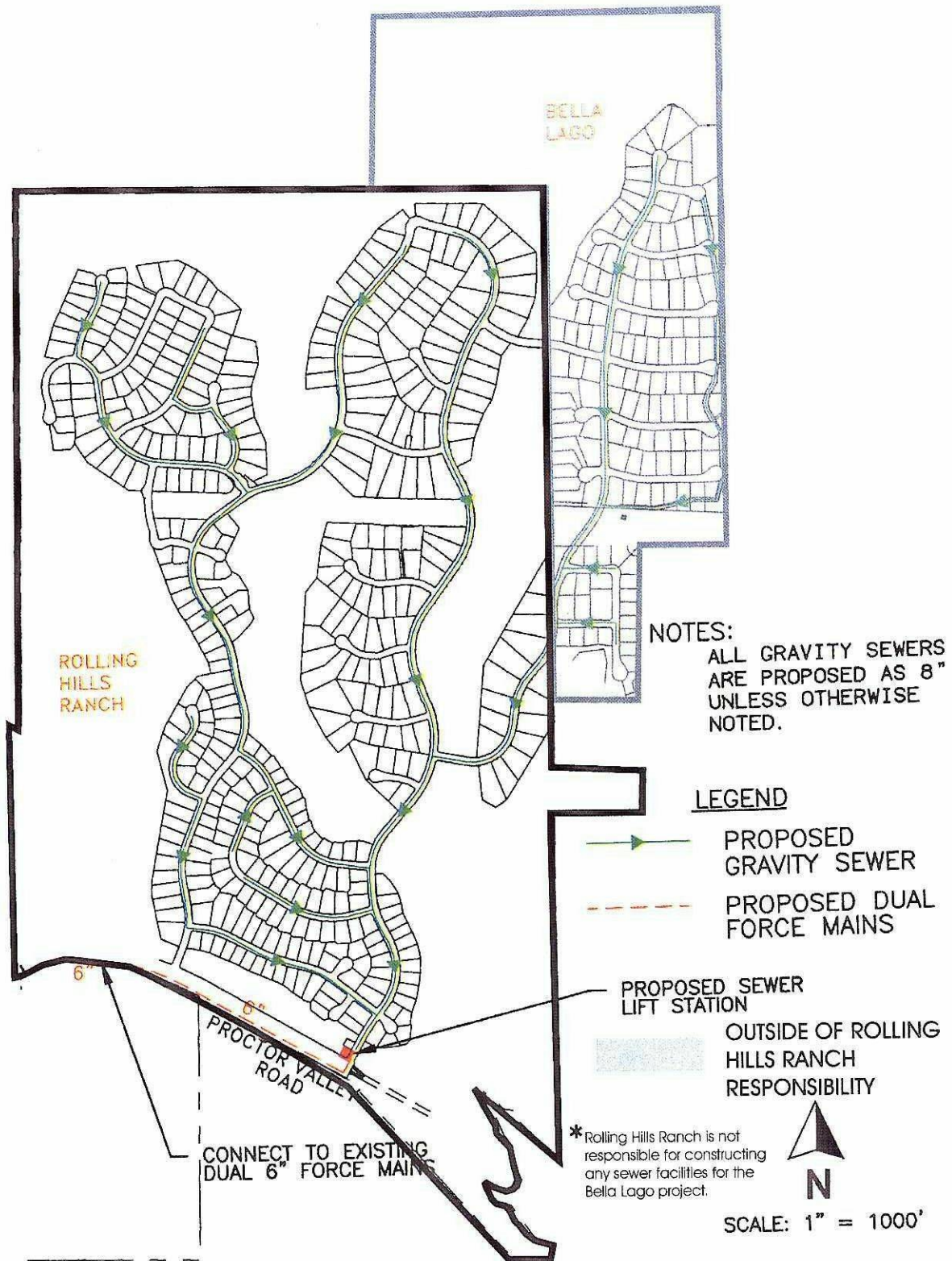


Figure 4.11-2

Recommended Sewer Facilities for the Rolling Hills Ranch Project

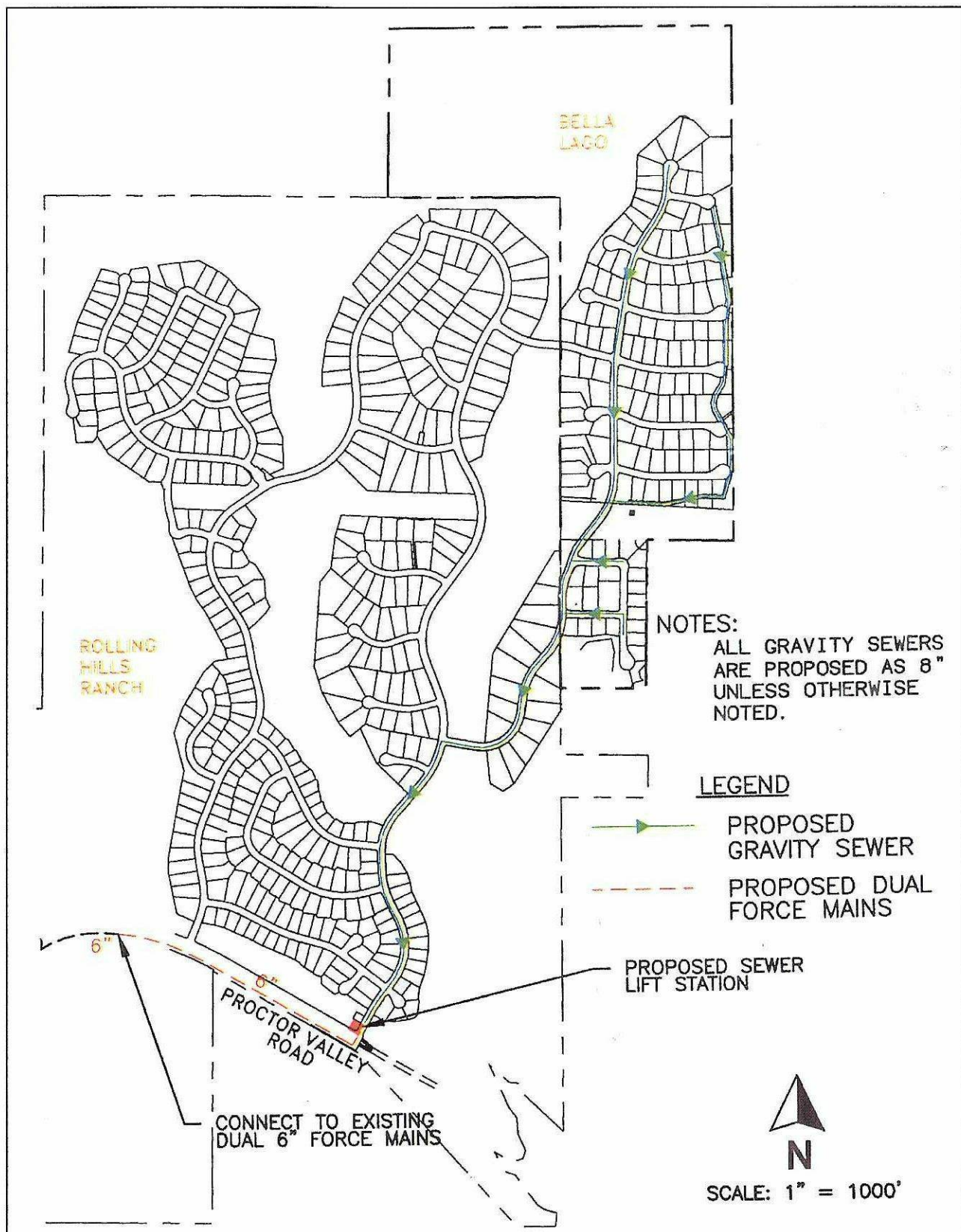


Figure 4.11-3

Proposed Sewer Facilities for the Bella Lago Project

The proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would require the construction of an eight-inch on-site and off-site gravity sewer line, an off-site sewer lift station, and dual six-inch force mains to serve the project area. The proposed sewer improvements are planned to connect with the existing or planned sewer facilities that would occur within the Rolling Hills Ranch project site. The off-site eight-inch sewer lines and dual six-inch force mains would be designed to provide enough capacity to accommodate sewer flows from the proposed project site. Bella Lago would require capacity from the Rolling Hills Ranch on-site lift station and force main.

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

A portion of the proposed dual six-inch force main piping has already been installed in Rolling Hills Ranch, with the remainder to be installed during Subarea III of the Rolling Hills Ranch project. Figure 4.11-2, *Recommended Sewer Facilities for the Rolling Hills Ranch Project*, identifies the appropriate sewer lines that would be constructed within the Rolling Hills Ranch project. If the sewer facilities within the Rolling Hills Ranch are not constructed prior to development of the proposed project, these facilities would become off-site improvements required by the Bella Lago project. Figure 4.11-3, *Proposed Sewer Facilities for the Bella Lago Project*, identifies sewer facilities that would need to be constructed if the Rolling Hills Ranch project has not constructed the gravity sewer line, sewer lift station, and force main piping at the time the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project is ready to develop.

The lift station calculations that were prepared by Dexter Wilson Engineering, Inc. for the Rolling Hills Ranch and the Bella Lago developments allow capacity for 428 residential units from the Rolling Hills Ranch project and 140 residential units from the proposed project. The average per capita sewer demand for both the Rolling Hills Ranch project and the proposed project is estimated to be approximately 151,514 gpd with a 2.27 peak factor. In addition, an overflow storage facility would be constructed to provide overflow storage for up to eight hours of average flow, as required by the City of Chula Vista. The lift station facility has been designed to provide enough capacity to convey sewage flows from the proposed project site, as well as the adjacent Rolling Hills Ranch project.

The City currently operates and maintains its own sanitary system consisting of sewers ranging from six-inches to 36-inches in diameter. Chula Vista has several sewer systems which include the Spring Valley Interceptor that collects sewer flows from the northern portion of the City; the Metro Interceptor that collects sewer flows in the central portion of the City; the Main Street and Date/Faivre Trunk Sewers that collect sewer flows in the southern portion of the City; the Otay Valley Trunk Sewer that collects sewer flows from Coors Amphitheater and White Water Canyon Water Park in the southern portion of the City. The Salt Creek Interceptor is currently under construction and is designed to serve the eastern portions of Chula Vista including the proposed project site. It is scheduled to be complete in early 2004.

In November of 1994, the *Salt Creek Basin Gravity Sewer Analysis* was prepared to establish a fee to fund future improvements to the Salt Creek Interceptor System. The proposed project was included as an adjacent property that would ultimately contribute flows to this interceptor. Based on the results of this study, the City of Chula Vista adopted Ordinance Number 2617 to establish the fee by land use type for future users of the Salt Creek Interceptor. The current fee for single-family residential development is \$284.00 per unit. These fees are typically collected at the time building permits are issued. Payment of this fee by the developer of Bella Lago for the construction of the interceptor system would pay for the project's proportionate share of the costs of sewer facilities to serve Bella Lago and would therefore mitigate any



impacts to the Salt Creek Interceptor system to below a level of significance.

The development of Bella Lago would require the construction of a sewer line that would cross a San Diego Gas and Electric easement. Construction of this sewer line would require approval from San Diego Gas and Electric.

#### **4.11a.4 Level of Significance Before Mitigation**

Development of Bella Lago would result in an incremental increase in sewer service demand. No sewer facilities currently serve the project site; therefore, sewer facilities would need to be constructed to accommodate sewer flows from the proposed project. As a standard condition the City requires development projects to pay development fees, which would contribute to funding for new facilities and resources. Construction of these facilities would ensure that the project would not result in a significant impact. Therefore, the following impacts associated with providing sewer service to Bella Lago have been identified as potentially significant.

- ◆ *A significant sewer impact would occur if there was not sufficient capacity in the Rolling Hills Ranch on-site lift station and force main to accommodate the flows from Bella Lago, or if these facilities were not constructed at the time of development of Bella Lago.*
- ◆ *If the Salt Creek Interceptor has not been completed at the time Bella Lago is ready to develop, Bella Lago must obtain capacity from an alternate lift station.*
- ◆ *A significant impact could occur to the Salt Creek Interceptor system if the fee was not paid.*

#### **4.11a.5 Mitigation Measures**

The following mitigation measures have been identified for the proposed project:

- Measure 4.11a-1: Prior to approval of the first final map for the project, the developer of Bella Lago shall enter into a three party agreement with the City, and the developer of Rolling Hills Ranch for capacity in Rolling Hill Ranch's on-site lift station and force main. If the Rolling Hills Ranch project has not constructed the gravity sewer line, sewer lift station, and force main piping at the time the Bella Lago project is ready to develop, these facilities will become off-site improvements necessary to serve the project.*
- Measure 4.11a-2: If the Salt Creek Interceptor has not been completed prior to the approval of the first final map for the project, the developer shall enter into a three party agreement with the City of Chula Vista and the Eastlake Company to acquire capacity rights at the Otay Lakes Road Pump Station and the Olympic Parkway Pump Station. Under this scenario, Bella Lago would also be required to pay the Pumped Flow Development Impact Fee.*
- Measure 4.11a-3: The developer of Bella Lago shall construct all off-site and on-site sewer facilities identified in the Overview of Sewer Service for the Bella Lago Project and as required by the City Engineer to serve the project.*

- Measure 4.11a-4: The developer of Bella Lago shall comply with the City Council Policy 570-03 for Pumped Sewer flows.*
- Measure 4.11a-5: Prior to issuance of each Grading Permit, the developer of Bella Lago shall obtain City of San Diego Water Utility concurrence on all grading and improvement plans within the Otay Lake Drainage Basin, with the final decision at the discretion of the City of Chula Vista.*
- Measure 4.11a-6: Prior to approval of the first final map for the project, the developer of Bella Lago shall create a post-construction BMP maintenance program acceptable to the City Engineer, the Regional Water Quality Control Board and the City of San Diego Water Utilities Department with perpetual funding for maintenance, with the final decision at the discretion of the City of Chula Vista.*
- Measure 4.11a-7: Prior to the recordation of the first final map for the project, the applicant shall demonstrate to the City Engineer that there is adequate capacity to handle projected sewage flows for the entire project.*
- Measure 4.11a-8: Sewer facility improvements shall be financed or installed on- and off-site in accordance with City Council Policy 570-03.*
- Measure 4.11a-9: The developer shall be responsible for constructing all sewer improvements from Rolling Hills Ranch to Bella Lago necessary to serve the project. The developer shall adequately provide sewer service without relying upon any proposed sewer construction phasing by other developments. The developer shall also underwrite the cost of all studies and reports needed to support the addition of sewer flows to existing lines.*

#### **4.11a.6 Level of Significance After Mitigation**

The mitigation measures identified above would reduce any impacts to below a level of significance. Construction of facilities, development fees, and compliance with the City Policy for Pumped Sewer Flows would ensure no significant impacts would result from the Bella Lago project.

#### **4.11b Water Services**

Information contained in this section came from public service providers (Appendix I), the *Overview of Water Services for the Bella Lago Project*, dated May 16 2002 (Appendix L), the *Final Bella Lago Precise Plan Water Conservation Plan*, dated October 25, 2002 (Appendix M), and the *Urban Runoff Management Plan for Bella Lago*, dated September 5, 2002 (Appendix H).



**4.11b.1 Existing Conditions*****Development of Bella Lago After Development of Rolling Hills Ranch Subarea III*****Water Services**

The proposed project site is located within the service area of the Otay Water District (OWD). The Otay Water District relies on the San Diego County Water Authority (SDCWA) for its potable water supply. The SDCWA is the largest of 27 member agencies of the Metropolitan Water District of Southern California (MWD). MWD is the primary importer of domestic water in Southern California.

There are no existing water facilities within or in close proximity to the project site. The nearest facilities are the 980 Zone Reservoirs, located in the Otay Water District Use Area Property and the 980 Zone transmission pipelines that would extend from the Rolling Hills Ranch project along Proctor Valley Road to Bella Lago. Water service for Bella Lago would be provided by the OWD.

The project site is entirely within the Otay Lakes drainage basin. There are no recycled water facilities located at or near the project site. Due to its location on lands tributary to a potable water drinking source, recycled water is not currently permitted by the State of California Department of Health Services. Similarly, no recycled water facilities have been installed in the portion of Rolling Hills Ranch that is within the Otay Lakes drainage basin.

**Water Conservation Plan**

The subject of water conservation has been given increased attention in recent years due to local and regional water purveyors concerned about meeting the future water demands of their customers, especially in time of drought. Water conservation provides an alternative approach to meeting the water demand for a proposed community by managing water demand so that customers receive adequate service but use less water.

There is a practical limit to the percentage reduction of water use in established communities due to the types of plumbing fixtures installed in existing homes, as well as the difficulty in altering consumers' established patterns of water use. However, new developments can address water conservation issues during project planning and development. The State, along with many local governments, have mandated a number of water conservation devices including: showerheads (2.5 gpm), lavatory faucets (2.2 gpm), sink faucets (2.2 gpm), tub spout diverter (0.1 gpm), residential water closets (1.6 gpf), and flushometer valves (1.6 gpf). By incorporating low water use plumbing fixtures, promoting drought tolerant landscaping, and providing educational materials to homeowners within the development project, private developments can promote water conservation and establish new patterns of water use.

The City of Chula Vista Growth Management Ordinance requires that all major development projects (50 dwelling units or greater) prepare a Water Conservation Plan. The water conservation plan prepared for Bella Lago identifies non-mandated water conservation measures for both indoor and outdoor activities. These measures would be incorporated into the planning and design of Bella Lago. In addition, optional measures for the future residents of Bella Lago are offered. The targeted reduction of water use for Bella Lago is three percent. However, due to the location of Bella Lago upstream of Lower Otay Reservoir, graywater and recycled water systems cannot be used.

## Stormwater Runoff

The Bella Lago project site drains towards the Upper Otay Reservoir, which ultimately drains to the Lower Otay Reservoir. The Lower Otay Drainage Basin is approximately 98 square miles, with a 98-year average runoff of 6,819 acre-feet per year. This equates to an average annual runoff of 0.109 acre-feet per acre. Applying this to the Bella Lago project site, approximately 19.5 acre-feet of runoff can be expected in an annual basis in an average rainfall year.

The Otay Reservoir is a source of drinking water for residents of the City of San Diego. Therefore, an Urban Runoff Management Plan has been prepared for the project. The Urban Runoff Management Plan addresses two distinct water quality standards: 1) protection of drinking water in Upper Otay Reservoir; and 2) the requirements under the forthcoming RWQCB Municipal Permit. The Plan also describes three alternatives for the Bella Lago project site which meet water quality requirements. Alternative Three, a diversion system, is recommended as the preferred alternative.

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

If development occurs in Bella Lago prior to construction of the 980 Zone transmission pipelines that would extend from the Rolling Hills Ranch project along Proctor Valley Road, then water service would not be available from those transmission pipelines. In order to provide adequate water service to Bella Lago, developers of Bella Lago would be required to construct the 980 Zone transmission pipelines along a portion of Proctor Valley Road from Rolling Hills Ranch to the Bella Lago project site.

#### **4.11b.2 Threshold of Significance**

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on water services if the project:

- ◆ Cannot be served from existing entitlements and resources and would require the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- ◆ Disrupts water service or causes water purveyors to provide inadequate levels of service.

In accordance with the City's Thresholds Standards Policy:

1. Developer will request and deliver to the City a service availability letter from the Water District for each project.
2. The City shall annually provide the San Diego County Water Authority, the Sweetwater Authority, and the Otay Municipal Water district with a 12 to 18 month development forecast and request an evaluation of their ability to accommodate the forecast and continuing growth. The Districts' replies should address the following:
  - a. Water availability to the City and Planning Area, considering both short and long term perspectives.
  - b. Amount of current capacity, including storage capacity, now used or committed.

- c. Ability of affected facilities to absorb forecast growth.
- d. Evaluation of funding and site availability for projected new facilities.
- e. Other relevant information the District(s) desire(s) to communicate the City and GMOC.

#### 4.11b.3 *Impact Analysis*

##### ***Development of Bella Lago After Development of Rolling Hills Ranch Subarea III***

The proposed residential development would require water service from the OWD. Based on OWD's consumption factor, full occupancy of the 140 single-family residential units within the proposed project would use approximately 131,090 gallons of water per day (gpd).

The proposed project is recommended to be served by the 980 Zone and the 1296 Zone water systems. Table 4.11-1, *Water Service Zone Summary*, summarizes the lot elevation ranges and anticipated static pressures within each service zone.

TABLE 4.11-1  
WATER SERVICE ZONE SUMMARY

Water Service Zone	Lot Elevation (feet)		Static Pressure (psi)	
	Minimum	Maximum	Minimum	Maximum
980	735	840	61	106
1296	840	945	152	198

Based on the April 1997 *Subarea Master Plan of Potable and Recycled Water for the Rolling Hills Ranch*, the eight-inch to sixteen-inch 980 Zone pipelines will be extended to serve future development within the Rolling Hills Ranch project site, adjacent to the proposed project site. A 1296 Zone hydropneumatic pump station and distribution piping are also proposed within the northernmost portion of the Rolling Hills Ranch project site. The Bella Lago project would receive water services by extending these facilities, as shown in Figure 4.11-4, *Recommended Potable Water Facilities*. The Rolling Hills Ranch project water facilities would be designed to adequately serve the Bella Lago project site in accordance with the design criteria of the Otay Water District Resources Master Plan.

The residential units within Bella Lago would be required to comply with water conservation measures such as low flush toilets, drought tolerant landscaping, water conserving fixtures, and other requirements of Titles 20 and 24 of the California Administrative Code. These measures would conserve water and prevent inefficient use of water resources. In addition, the proposed project has established a water conservation target of a three percent reduction of single family home water usage. To meet this target, the developer would install the following non-mandated measures in all residential units: water efficient dishwashers, water pressure reducing valves, hot water pipe insulation, and hot water on-demand units. At buildout of the proposed project, implementation of the above measures would result in an estimated water savings of 3,598 gpd.

Homeowners would also receive a water conservation/landscaping guide to educate homeowners in the design and installation of water efficient landscaping and irrigation. This could result in potential additional savings of 8,400 gpd.

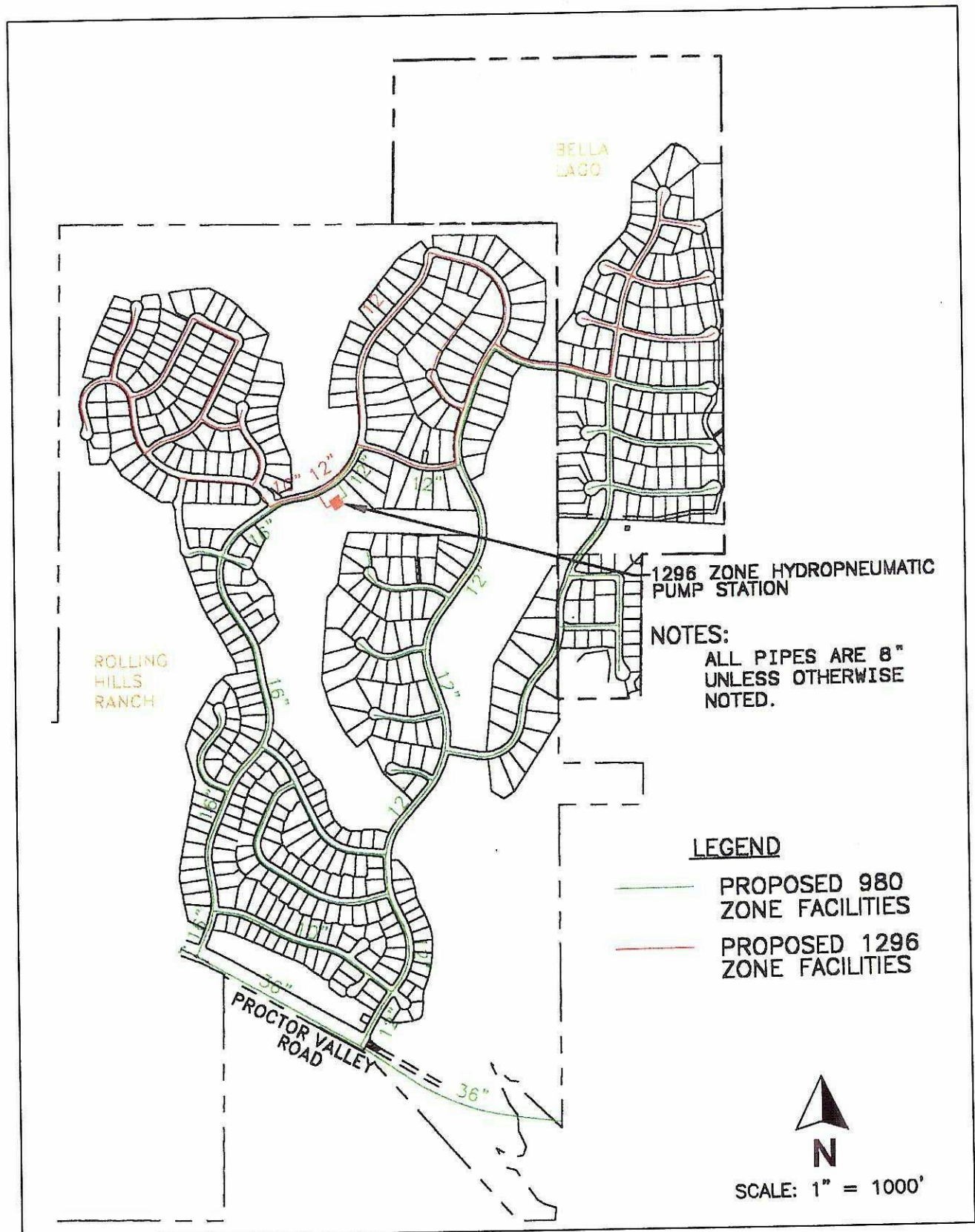


Figure 4.11-4  
Recommended Potable Water Facilities

Additionally, other non-mandated conservation options would be offered to homebuyers. These include: evapotranspiration controllers, dual flush toilets, and high efficiency washing machines. Inclusion of these conservation options would increase the project's water savings.

The extension of the water lines to individual lots on the project site would be made in coordination with the OWD. The OWD has indicated that it can adequately serve the water needs of the project without significant impacts on existing water supplies or services. No significant impact on the existing water system would occur with project implementation and no adverse impacts on water services are expected.

There are no recycled water facilities recommended for the proposed project. The project area is located within the Otay Lakes drainage basin. Irrigation with recycled water on lands tributary to a potable water drinking source is not permitted by the State of California Department of Health Services.

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

If the 980 Zones and the 1296 Zone facilities within the Rolling Hills Ranch are not constructed prior to when the proposed project is ready to develop, adequate water service would not be available to serve Bella Lago. The 980 Zones and the 1296 Zone facilities will become off-site improvements required by the Bella Lago project and must be designed in accordance with the Otay Water District Resources Master Plan to adequately serve the Bella Lago project site.

#### **4.11b.4 Level of Significance Before Mitigation**

The Bella Lago project would result in an incremental increase in water consumption and place additional demands on water storage and pumping facilities. The increase in demand for water would not have a significant impact on the ability of OWD to provide service to Bella Lago. However, the impact to water storage and pumping facilities will be significant, if construction of facilities does not coincide with the development phasing of the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project, resulting in the following potentially significant impact:

- ♦ *A significant impact could occur if water facilities to serve the project site are not constructed at the time the project is ready to develop.*

#### **4.11b.5 Mitigation Measures**

The following mitigation measures are recommended for the Bella Lago project:

##### Measures

*Measure 4.11b-1: If the 980 Zone and 1296 Zone facilities within Rolling Hills Ranch are not constructed prior to approval of the first final map for the project, these facilities shall be required off-site improvements for the Bella Lago project.*

*Measure 4.11b-2: Prior to the approval of the first final map for the project, the Developer of Bella Lago shall secure and agree with the Otay Water District to construct all potable water facilities (on and off-site) required for the 1296 pressure system, including:*



- ◆ *A Hydropneumatic pump station meeting City of Chula Vista Fire flow requirements.*
- ◆ *A looped 980 pressure system providing the hydropneumatic pump with more than one source of 980 zone flows.*

*Measure 4.11b-3: Prior to approval of the Tentative Map for the project, the applicant shall provide the City with a letter from the OWD stating that adequate pumping and storage capacities are available or would be available concurrent with need.*

*Measure 4.11b-4: Prior to approval of the first final map for the project, the applicant shall provide the City with a letter from the OWD stating that adequate storage capacity exists or would be available to serve the project.*

*Measure 4.11b-5: A final Subarea Water Master Plan (SAMP) shall be approved prior to the approval of the Tentative Map for the project. The Master Plan shall include the design of water system infrastructure including timing and cost of development and must be in compliance with the OWD Master Plan. Water facilities improvements shall be financed or installed on- and off-site in accordance with the SAMP.*

#### **4.11b.6 Level of Significance After Mitigation**

The mitigation measures identified above would ensure any potential water impacts associated with the development of Bella Lago would be reduced to below a level of significance.

#### **4.11c Law Enforcement and Police Protection**

The analysis in this section would be the same under the Development of Bella Lago After Development of Rolling Hills Ranch Subarea III and the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenarios.

##### **4.11c.1 Existing Conditions**

The City of Chula Vista Police Department (CVPD) provides police protection to the project area. The main station serves the project site, which is located at 276 Fourth Avenue, approximately nine miles west of the project site. This station is equipped with 164 patrol cars and other similar vehicles, 12 motorcycles, and one mobile command post. The CVPD currently has 221 sworn officers and 103 civilian staff. The current ratio of sworn officers per 1,000 people is 1.2, which is considered adequate (correspondence from Rick Emerson to Amy Slater, dated May 30, 2002). The average response time to emergencies is five minutes and 13 seconds. Response times to non-emergencies vary, depending on the nature of the call for service, and are not reported as an average time.

The CVPD participates in the law enforcement mutual aid agreement, which is activated through the San Diego County Sheriff in the event of major critical incidents or natural disasters. A mutual aid agreement is an arrangement made between the City and the County to assist one another in emergency response and police protection.

Currently, a new police station is under construction within the City of Chula Vista. The CVPD continuously purchases equipment as needed. In addition, personnel may be added as service demands on

the department increase as a result of growing population, new housing developments, and larger populate service areas. The existing level of police protection is adequate to the serve the project site (letter from Rick Emerson to Amy Slater, dated May 30, 2002).

#### **4.11c.2 Threshold of Significance**

According to the City of Chula Vista's Quality of Life Threshold Standards, the proposed project would have direct adverse impacts on police protection if the proposed project would:

- ◆ Result in the CVPD's inability to implement the following regulations:
  1. Properly equipped staff and police units shall respond to 84 percent of "Priority One" emergency calls within seven minutes and maintain an average response time to all "Priority One" emergency calls of 4.5 minutes or less.
  2. Response to 62 percent of "Priority Two Urgent" calls within seven minutes and maintain an average response time to all "Priority Two" calls of seven minutes or less.

#### **4.11c.3 Impact Analysis**

According to the CVPD, the existing officer strength ratio of every 1,000 people is 1.2, which is considered adequate. The existing level of police protection service is adequate to serve the project site. Therefore, significant impacts related to law enforcement and police protection are not expected.

Development of the proposed project would result in an incremental increase in calls for police service. The CVPD estimates that the average emergency response time to beat 32, the beat in which the proposed development is located, is seven minutes and 35 seconds, which is considered inadequate by City standards. However, emergency response times have improved significantly in the recent years. In addition, development fees which would be paid by the developer would help to fund additional patrol officers in the area. Provided that increase revenues are available, the CVPD would be able to provide acceptable response times to the area.

#### **4.11c.4 Level of Significance Before Mitigation**

Implementation of the proposed Bella Lago project would result in the following potentially significant impacts:

- ◆ The proposed development would result in an incremental increase in calls for police service and emergency response times to the project site would be considered inadequate.
- ◆ Lack of police protection services, facilities, and staff concurrent with need would have a potentially significant impact on police protection services.

#### **4.11c.5 Mitigation Measures**

*Measure 4.11c-1 Prior to the approval of the first final map for the project, the developer shall pay impact fees for police protection services to help finance the needed facilities and services.*

*Measure 4.11c-2 The City will monitor Police Department responses to emergency calls and report the results to the GMOC on an annual basis.*

#### **4.11c.6 Level of Significance After Mitigation**

Mitigation measure 4.11c-1, which includes payment of development fees for police protection services are required for mitigation, which would reduce impacts to a below level of significance.

#### **4.11d Fire and Emergency Medical Services**

The analysis in this section would be the same under the Development of Bella Lago After Development of Rolling Hills Ranch Subarea III and the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenarios.

##### **4.11d.1 Existing Conditions**

Fire protection services are provided by the Chula Vista Fire Department (CVFD). According to the Fire Department, the fire stations that would service the proposed project site are Station 6, located at 975 Lane Avenue approximately 1.5 miles west of the project site; and Station 4, located at 850 Paseo Ranchero approximately 2.5 miles southwest of the project site. Station 6 has one engine and three firefighters, and Station 4 has one engine with four firefighters. The estimated response time to the project site is four minutes. There are plans to construct a new fire station – Station 8 – in the City. This station would house one engine and three firefighters. Station 8 would be located at East H Street and Mount Miguel, approximately two miles southwest of the project site. When constructed, Station 8 would serve the Bella Lago residential development.

The CVFD participates in a county-wide mutual aid agreement. This program is an agreement between cities and the County to assist each other in emergency responses and fire protection.

Emergency medical service for the City of Chula Vista, including the proposed project site, is provided by America Medical Response (AMR). AMR is the nation's largest provider of medical transportation. It currently operates in 35 states and has over 19,000 employees and 4,000 vehicles. AMR responds to more than four million patients per year. Emergency response transports patients to two local hospitals: the Sharp Chula Vista Medical Center, located at 751 Medical Center Court (approximately 3.5 miles southwest of project site); and the Scripps Memorial Hospital, located at 435 H Street (approximately five miles southwest of the project site). According to AMR, the average response time to the proposed project area is seven minutes. Current response times and facilities are adequate to serve the City of Chula Vista and would be adequate to serve the proposed project site (correspondence from Gordon Anderson, AMR, to Amy Slater, dated June 24, 2002).

##### **4.11d.2 Threshold of Significance**

According to the City of Chula Vista's Quality of Life Threshold Standards, the proposed project would have direct adverse impacts on fire and emergency medical services if the proposed project would:

- ◆ Not implement regulations set forth from the following criteria:

1. Properly equipped and staffed fire and medical units shall respond to calls throughout the City within seven minutes in 85 percent of calls.

#### **4.11d.3 Impact Analysis**

The proposed project would result in an increase in the demand for fire and emergency response services at the project site. The estimated response time for the project site is four minutes, which is considered adequate. According to the CVFD, the proposed project would not present a direct significant impact to fire protection services; however, the project will incorporate mitigation measures to support a potential need for additional staffing associated with the project's incremented effect to fire and emergency response services due to increased population in the project area. There would be no fire safety standards or requirements (access, exits, construction, etc.) imposed on the project.

Similarly, the proposed project is not expected to result in significant impacts associated with medical services. The existing level of emergency response provided by AMR is adequate to serve the project site and the City of Chula Vista. The estimated response time for the proposed Bella Lago Precise Plan, Rezone, and Tentative Map project site is seven minutes. According to the AMR, the proposed project would not present a significant impact to emergency response services. No new facilities or additional staffing would be required as a result of the proposed project.

#### **4.11d.4 Level of Significance Before Mitigation**

The proposed project would result in an incremental increase in the demand for fire and emergency response services. Mitigation measures have been incorporated to reduce the project's impact to fire and emergency response services to less than significant.

#### **4.11d.5 Mitigation Measures**

*Measure 4.11d-1 Prior to approval of the first final map for the project, the developer shall pay impact fees for fire protection services to help finance the needed facilities and services.*

*Measure 4.11d-2 The City will monitor Fire Department responses to emergency fire and medical calls and report the results to the GMOC on an annual basis.*

#### **4.11d.6 Level of Significance After Mitigation**

The mitigation measures identified in Section 4.11d.5 above, which include impact fees for fire protection services and monitoring of Fire Department responses and calls, would reduce potential impacts on fire protection services to below a level of significance.

**4.11e Parks and Recreation****4.11e.1 Existing Conditions****Development of Bella Lago After Development of Rolling Hills Ranch Subarea III**

Development of parks and recreation in the project area is guided by the City of Chula Vista General Plan. According to the Open Space Element of the Chula Vista General Plan, the City of Chula Vista has designated approximately 4,641 acres for parks and recreational and open space areas, which include city parks, regional parks, golf courses, publicly owned water areas, and salt marshes. The proposed project site is located within the Eastern Territories Community Plan area, which, according to the Eastern Territories Area Plan, has approximately 1,716 acres of designated parks and recreation land and approximately 20,607 acres of designated open space. According to the City of Chula Vista Parks and Recreation Master Plan, there are 387.39 acres of existing parks in the City at this time.

Park services to the project site are provided by the City of Chula Vista Office of Building and Park Construction and the Recreation Department. There are no recreational facilities located within or adjacent to the proposed project site. The nearest parks are the private Scrobee Park, located at 2351 Fenton Street; and the City of Chula Vista MacKenzie Creek Park, located at 2775 MacKenzie Creek Road. Both of these parks are approximately two miles southwest of the project site. In addition to the existing parks, there are currently two Community Parks being developed for the adjacent San Miguel Ranch and Rolling Hills Ranch developments. These parks will be located approximately one mile southwest of the project site and would be the nearest Community Parks to the project site.

**Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III**

If development of Bella Lago precedes development of Rolling Hills Ranch, the Community Park planned in Rolling Hills Ranch would not be available to serve residents in Bella Lago until development in Rolling Hills Ranch takes place. However, the existing MacKenzie Creek Neighborhood Park in Rolling Hills Ranch as well as Scrobee Park would provide nearby recreation opportunities for residents of Bella Lago.

**4.11e.2 Threshold of Significance**

According to the City of Chula Vista's Quality of Life Threshold Standards:

- ◆ The City requires three acres of improved local parkland with appropriate facilities per 1,000 residents east of Interstate 805 (I-805).

**4.11e.3 Impact Analysis****Development of Bella Lago After Development of Rolling Hills Ranch Subarea III**

The proposed project would involve the development of 140 residential units. The City estimates that approximately 3.52 persons would occupy each residential unit, which would lead to a population of approximately 493 persons in the proposed Bella Lago residential development. These residents are likely to engage in recreational activities and may utilize nearby parks and recreational facilities, which would include use of regional and local parks and private recreational facilities near the project site. Park facilities



near the project site include Scrobee Park, MacKenzie Creek Park, and the proposed Community Parks in Rolling Hills Ranch and San Miguel Ranch. According to the City's required ratio of three acres of developed local parks (neighborhood and community parks) per 1,000 people, the proposed project would need to provide approximately 1.48 acres of land designated for local parks or provide in-lieu fees in accordance with current City policies and standards.

The proposed project site is restricted in size and would not involve the construction of recreation and park space. However, the project would involve the dedication of approximately 89 acres of permanent open space to the City's MSCP program, which would provide nature viewing opportunities for residents. Parks within the adjacent Rolling Hills Ranch development would also provide park and recreation opportunities for the residents of Bella Lago. Currently, there is one existing neighborhood park, MacKenzie Creek Neighborhood Park, within Rolling Hills Ranch, and one proposed Community Park. In addition, the proposed project would be required to contribute in-lieu fees consistent with the City's requirements.

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

If development of Bella Lago occurs prior to the opening of the Community Park in Rolling Hills Ranch, the park would not be available to residents in Bella Lago. However, development of Bella Lago is not dependent on the development of park facilities in Rolling Hills Ranch because there are several other park facilities nearby that could serve the residents of Bella Lago. Because Bella Lago is not providing park facilities on site, it will be required to contribute in-lieu fees consistent with the City's requirements, whether the Community Park in Rolling Hills Ranch is available or not. Residents of Bella Lago may be required to drive longer distances to access park facilities until the Community Park in Rolling Hills Ranch comes on-line; however, this is not considered a significant impact to the project.

#### **4.11e.4 Level of Significance Before Mitigation**

The proposed project would not provide parkland or recreational areas. A potentially significant impact to recreational and park services could result without the contribution of impact fees to help finance the needed facilities and services. However, the proposed project would pay park in-lieu fees, which would satisfy the project's 1.48 acre park obligation required per the City. Therefore, after payment of the fees has been completed, significant impacts are not anticipated.

#### **4.11e.5 Mitigation Measures**

*4.11e-1 The developer of the proposed project shall finance parkland obligation of 1.48 acres.*

#### **4.11e.5 Level of Significance After Mitigation**

Mitigation measure 4.11e-1 would reduce the impact of the proposed Bella Lago Precise Plan, Rezone, and Tentative Tract Map project to parks and recreation to a below level of significance, because the proposed project would delineate funding of new facilities concurrent with the City's needs.

**4.11f Schools****4.11f.1 Existing Conditions**

The analysis in this section would be the same under the Development of Bella Lago After Development of Rolling Hills Ranch Subarea III and the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenarios.

**Development of Bella Lago After Development of Rolling Hills Ranch Subarea III****Elementary Schools**

Elementary school facilities within the City of Chula Vista are provided by the Chula Vista Elementary School District. There are 39 elementary schools in the district. The Thurgood Marshall Elementary School, located at 2295 MacKenzie Creek Road (grades kindergarten through fifth) would serve the proposed project. The 2002 enrollment for Thurgood Marshall Elementary School was 496 students. The current capacity of Thurgood Marshall Elementary School is 700 students, which would accommodate students anticipated from developments in the surrounding areas. To accommodate overcrowding, the schools in Chula Vista use relocatable classrooms. An additional school is proposed in the San Miguel Ranch area. However, this school would not be constructed until the District has determined that the number of students to be generated by new development would exceed the foregoing capacity limit.

**Secondary School**

Secondary school facilities within the City of Chula Vista are provided by the Sweetwater Union High School District. The district operates senior high schools, junior/middle high schools, adult education schools, and continuing schools. There are ten high schools and nine middle schools in the district. The Eastlake High School, located at 1120 Eastlake Parkway (grades eighth through 12<sup>th</sup>), and the Rancho del Rey Middle School, located at 1174 East J Street (grades seventh and eighth), would serve the project site. The 2002 enrollment for Eastlake High School was 3,100 students, and the current capacity is 3,200 students. The 2002 enrollment for Rancho del Rey Middle School was approximately 1,537, which is over the school's 1,500 student capacity. To accommodate overcrowding, the schools in Sweetwater Union High School District use relocatable classrooms.

An additional middle school is proposed and would be constructed by July 2003 in the ~~Rolling Hills~~ San Miguel Ranch community area. Children in seventh grade would be attending the school in 2003, and children in grades seven and eight would be attending the following year. This school would serve children from the Bella Lago residential development. In addition, four high schools are planned for development in the City of Chula Vista, one of which is currently under construction and projected to open in July 2003.

**Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III**

~~If the Bella Lago project is built out prior to development of Rolling Hills Ranch, the middle school planned in Rolling Hills Ranch would not be available to serve middle school students generated by Bella Lago.~~

**4.11f.2 Threshold of Significance**

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on the provision of public services and facilities, such as school services, if it would:

- ◆ Result in a need for new or physically altered governmental facilities, the construction of which may cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

In accordance with the City's Threshold Policy:

- ◆ The City shall annually provide the two local school districts with a 12 to 18 month development forecast and request an evaluation of their ability to accommodate the forecast and continuing growth. The growth forecast and school district response letters shall be provided to the GMOC for inclusion in its review.

**4.11f.3 Impact Analysis**

Impacts to schools serving the project site would be related to the student generation from the proposed residential development. The proposed project would include the development of 140 single-family estate residential units.

**Development of Bella Lago After Development of Rolling Hills Ranch Subarea III****Elementary School**

The Chula Vista Elementary School District developed the *Fee Justification Report for New Residential and Commercial/Industrial Development* in March 2002. The report was prepared by Special District Financing and Administration (SDFA) for the purpose of "identifying the impact of projected future development on the school facilities, the availability of the District's current facilities to accommodate the impact, and the extent to which projected demand exceeds the District's current facilities capacity as well as qualify the costs associated with meeting the increased demand." According to the report, approximately 1.25 elementary school students are generated from every three single-family detached homes, and slightly less than one elementary school student is generated from every three multi-family dwelling units constructed.

Based on the student generation rate for single-family homes (1.25 students per three single family homes), the development of the proposed project would generate approximately 58 elementary school age children. Those children would attend the Thurgood Marshall Elementary School, which currently has an enrollment of 496 children, which is currently operating at approximately 200 students below capacity. The incremented increase in students from the proposed project may lead to the increased use of portable classrooms, larger class sizes or the construction of new facilities to serve student population growth. Increased use of other educational facilities and the need for additional teachers and staff may also occur. These may impact existing facilities and staffing at Thurgood Marshall Elementary School.

As permitted by State law, school districts assess school impact fees to help finance the needed facilities and services. The project would be required to pay school fees ~~to~~ or participate in an alternative financing

mechanism, such as a Community Facilities District, to the satisfaction of the Chula Vista Elementary School District prior to issuance of building permits. Payment of these feesFinancing by the project would help fund school facilities and services needed by project residents.

### Secondary School

According to the Sweetwater Union High School District, the number of students generated by each single-family home is 0.06 for middle schools and 0.07 for high schools. The construction of 140 single-family residential units would generate approximately eight middle school-aged children and ten high school-aged children. Those children would attend the Eastlake High School and the planned middle school that would open in June 2003. Eastlake High School's current capacity is 3,200 students, which would accommodate the ten students generated by the proposed project. The proposed middle school's student enrollment capacity is undetermined at this time; however, the Sweetwater Union High School District expects that this school would be able to accommodate children from Bella Lago residential development.

Students from the proposed project may lead to the increased use of portable classrooms, larger class sizes or the construction of new facilities to serve student population growth. Increased use of other educational facilities and the need for additional teachers and staff may also occur. These may impact existing facilities and staffing at Eastlake High School and the planned middle school.

As permitted by State law, the project would be required to pay school fees or participate in an alternative financing mechanism, such as a Community Facilities District, to the satisfaction of Sweetwater Union High School District prior to issuance of building permits. Payment of these feesFinancing by the project would help fund school facilities and services needed by project residents.

### ***Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III***

~~If Bella Lago develops before the planned middle school in Rolling Hills Ranch is open, then the estimated eight middle school students generated by Bella Lago would attend Rancho Del Rey Middle School. Current enrollment at Rancho Del Rey Middle School slightly exceeds its capacity. The addition of eight students could exacerbate this impact, depending on enrollment at the time that Bella Lago is adding middle school students.~~

#### **4.11f.4 Level of Significance Before Mitigation**

A potentially significant impact to school services could result without the contribution of school impact fees to help finance the needed facilities and services. The following potentially significant impacts would be associated with implementation of the Bella Lago project.

- ◆ The additional 58 elementary school age children could contribute to the increased use of portable classrooms, the need for larger class sizes or the construction of new facilities to serve student population growth. Increased use of other educational facilities and the need for additional teachers and staff would also occur.
- ◆ The proposed 140 single-family residential units would generate approximately eight middle school-aged children and ten high school-aged children. The middle school planned for Rolling Hills San Miguel Ranch and the Eastlake High School could accommodate the students generated by the project.

If the project is developed prior to completion of the middle school planned for Rolling Hills San Miguel Ranch, middle school students would attend Rancho Del Rey Middle School. In order to accommodate a student population that exceeds capacity, Rancho Del Rey Middle School could require increased use of portable classrooms and additional teachers.

#### **4.11f.5 Mitigation Measures**

*Measure 4.11f-1: Prior to issuance of building permits, the project applicant shall pay school impact fees or participate in an alternative financing mechanism, such as a Community Facilities District, to help finance the needed facilities and services for the Chula Vista Elementary and the Sweetwater Union High School Districts prior to issuance of building permits to help finance the needed facilities and services to the satisfaction of the School Districts.*

#### **4.11f.6 Level of Significance After Mitigation**

Mitigation measure 4.11.f-1 would reduce the impact to school services to below a level of significance because the payment of school impact fees project would provide funds for needed services and facilities.

#### **4.11g Library**

The analysis in this section would be the same under the Development of Bella Lago After Development of Rolling Hills Ranch Subarea III and the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenarios.

##### **4.11g.1 Existing Conditions**

The City of Chula Vista currently operates the Civic Center Branch Library on F Street in Central Chula Vista, and two neighborhood libraries: the South Chula Vista Branch, located at 389 Orange Avenue, and the Eastlake Branch Library, located at 1120 East Lake Parkway. The Eastlake Branch Library would serve the proposed project. According to the Chula Vista General Plan, libraries should have a ratio of 0.5 to 0.7 gross square feet for every resident (500 to 700 square feet of library space per 1,000 residents). The Eastlake Branch Library has a current volume of approximately 25,000 books and has an approximate square footage of 9,000 to 10,000 square feet. The South Chula Vista Library has a current volume of 166,000 books and has an approximate square footage of 37,000. The Civic Center/Main Library has a current volume of approximately 236,000 books and has an approximate square volume of 55,000 square feet. The three libraries have a combined volume of 327,000 books and approximately 101,000 to 102,000 square feet of space. Based on the Census population growth trend for the City, Chula Vista is estimated to have a population of approximately 181,234 in 2002. Therefore, the 327,000 book volume provides 1.8 books per resident. The existing 101,000 to 102,000 square feet of library space provides 0.6 square feet of library space per resident, which meets the City's recommendation for library services.

##### **4.11g.2 Threshold of Significance**

According to the City of Chula Vista's Quality of Life Threshold Standards, the proposed project would have direct adverse impacts on library services, if the proposed project would:



- ◆ Result in less than the recommended ratio of 500 square feet of adequately equipped and staffed library facility per 1,000 population.

#### **4.11g.3 Impact Analysis**

The proposed project would generate new residents who would likely use the Eastlake Branch Library, the Civic Center Branch Library and the South Chula Vista Branch Library and their resources. Based on City standards, the estimated 451 residents of the proposed 140-lot residential subdivision would result in the need for 226 square feet of library space (at 0.5 square foot per resident).

The City of Chula Vista is estimated to have a population of 181,234 people in 2002. These residents require a 90,617 square feet of library space. The Eastlake library, the Civic Center Library, and the South Chula Vista Branch Library have a combined space of 101,000 to 102,000 square feet. Thus, a remaining 10,383 square feet of floor area is available to serve the 460 residents of Bella Lago and future residents of Chula Vista. Also, there are adequate book volumes to serve existing residents and the proposed development. The existing 101,000 to 102,000 square feet of library space provides 0.6 square feet of library space per resident (3200 per 1,000 residents), which meets the city's recommendation for library services. In addition, the project would be required to pay development fees which, would help finance the City's library facilities.

#### **4.11g.4 Level of Significance Before Mitigation**

Without the payment of impact fees, there would not be a potentially significant impact to library services. The Chula Vista Library system has enough book volume and library space to accommodate the additional persons generated by the proposed project that would use the libraries.

#### **4.11g.5 Mitigation Measures**

*Measure 4.11g-1: The project applicant shall pay impact fees to help finance the library facilities, supplies, and services.*

#### **4.11g.6 Level of Significance After Mitigation**

Mitigation measure 4.11g-1 would reduce impacts to library services to below a level of significance because the required development fees would finance library facilities, supplies, and services concurrent with the City's needs.

### **4.11h Solid Wastes Disposal**

The analysis in this section would be the same under the Development of Bella Lago After Development of Rolling Hills Ranch Subarea III and the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenarios.

#### **4.11h.1 Existing Conditions**

Pacific Waste Systems is responsible for solid waste disposal in the project area. Solid wastes generated

from the project area would be transported to the Otay Landfill, which is located north of Otay Valley Road on the south side of Chula Vista. The Otay Landfill serves the cities of Chula Vista, Coronado, Imperial Beach, National City, and San Diego. The Otay Landfill was opened in February 1966 and encompasses approximately 515.64 acres, with 294 acres of the total area used for disposal purposes. The remaining landfill capacity of Otay Landfill is 25,800,000 cubic yards.

#### **4.11h.2 Threshold of Significance**

According to Appendix G of the CEQA Guidelines, a proposed project would impact solid waste disposal services if the proposed project:

- ◆ Is served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

#### **4.11h.3 Impact Analysis**

The Pacific Wastes Services uses an estimated 31 to 39 pounds of refuse per unit per week (1,612 to 2,028 pounds of refuse per unit per year) for residential uses. The 140 single-family estate residential units proposed at build out of the Bella Lago Precise Plan, Rezone, and Tentative Tract Map project would thus generate approximately 4,340 to 5,460 pounds of refuse per week (225,680 to 283,920 pound of refuse per year).

The density at which trash can be compacted is 400 to 1,500 pounds per cubic yard (ppcy). Pacific Wastes Services uses a factor of 1.56 cubic yards per ton of compacted trash or 1,282 ppcy. If the remaining landfill capacity of Otay landfill is 25,800,000 cubic yards, the project's solid waste generation per year would occupy less than 0.01 percent of the total landfill capacity. In addition, the Chula Vista General Plan suggests that solid waste collection is currently being handled satisfactory. Projects impacts associated with solid waste are not considered significant.

#### **4.11h.4 Level of Significance Before Mitigation**

The proposed project would not result in impacts to solid waste services and no mitigation measures are required.

#### **4.11g.5 Mitigation Measures**

No significant impacts on solid waste disposal services are expected with project implementation. No mitigation is required.

#### **4.11h.6 Level of Significance After Mitigation**

Mitigation measures are not required for solid waste services because no significant impacts would occur.

#### **4.11i Gas and Electricity**

The analysis in this section would be the same under the Development of Bella Lago After Development

of Rolling Hills Ranch Subarea III and the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenarios.

#### **4.11i.1 Existing Conditions**

Natural gas and electricity to the project site are provided by Sempra Energy (formally San Diego Gas and Electric). Electric power lines currently cross the subject property in an east to west fashion in the southern portion of the project site. There are no natural gas lines located within or near the proposed project site.

#### **4.11i.2 Threshold of Significance**

According to Appendix G of the CEQA Guidelines, a project could have a significant adverse impact on the environment if it would:

- ◆ Use fuel or energy in a wasteful manner;

A project could also have a significant adverse impact on power and gas services, if the project:

- ◆ Cannot be served from existing resources and would require the construction of new facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

A project may have a significant impact on power and gas services, if it:

- ◆ Disrupts existing service or causes utility agencies to provide inadequate levels of service.

#### **4.11i.3 Impact Analysis**

The project site is located within the service boundaries of Sempra Energy. Although Sempra Energy currently does not provide services to the project area, adequate gas and electric supplies are available to meet the needs of the proposed project site. Natural gas lines would need to be constructed to the project site to provide service to future residents. However, this would not result in any significant impacts to gas and electricity services.

#### **4.11i.4 Level of Significance Before Mitigation**

The proposed project would not result in impacts to gas and electric services and no mitigation measures are required.

#### **4.11i.5 Mitigation Measures**

No significant impacts on gas and electric services are expected with project implementation. Therefore, no mitigation measures are required.

**4.11i.6 Level of Significance After Mitigation**

Mitigation measures are not required for gas and electric services because no significant impacts would occur.

**4.11j Cable and Telephone Services**

The analysis in this section would be the same under the Development of Bella Lago After Development of Rolling Hills Ranch Subarea III and the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenarios.

**4.11j.1 Existing Conditions**

Communication systems for telephone and cable television are serviced by Cox Communications and other independent cable companies. There are no cable facilities within or adjacent to the proposed project site.

The proposed project site is serviced by Pacific Bell for telephone services. Pacific Bell is mandated by the State Public Code to provide telephone service when requested throughout the State of California. There are no existing telephone facilities that serve the project site. The nearest telephone lines are located on Proctor Valley Road and Proctor Valley Lane south of the project site.

**4.11j.2 Threshold of Significance**

According to Appendix G of the CEQA guidelines, a project could normally have a significant adverse impact on cable or television services, if the project:

- ◆ Cannot be served from existing resources and would require the construction of new facilities or expansion of existing facilities, the construction of which could cause significant environmental effects:
- ◆ Disrupts existing service or causes utility agencies to provide inadequate levels of service.

**4.11j.3 Impact Analysis**

Construction and occupancy of the proposed project would require service connections to existing telephone and cable television lines running near the site. This would entail the extension of existing lines into individual lots on the site. Cox Communications and Pacific Bell provide service on demand and could serve the proposed development. Coordination with Cox Communications and Pacific Bell would ensure that their facilities are adequate to serve the 140 dwelling units and telephone and cable services and would be available at the time of first occupancy. No significant impacts on existing telephone and cable services are expected with project implementation.

**4.11j.4 Level of Significance Before Mitigation**

The proposed project would not result in significant impacts to cable and television services. No mitigation measures are required.

**4.11j.5 Mitigation Measures**

No significant impacts telephone and cable services are expected with project implementation. No mitigation for these services is required.

**4.11j.6 Level of Significance After Mitigation**

Mitigation measures are not required for cable and television services because no significant impacts would occur.

## 4.12 PUBLIC HEALTH AND SAFETY

The analysis in this section would be the same under the Development of Bella Lago After Development of Rolling Hills Ranch Subarea III and the Development of Bella Lago Prior to Development of Rolling Hills Ranch Subarea III scenarios.

### 4.12.1 Existing Conditions

#### **Electromagnetic Fields**

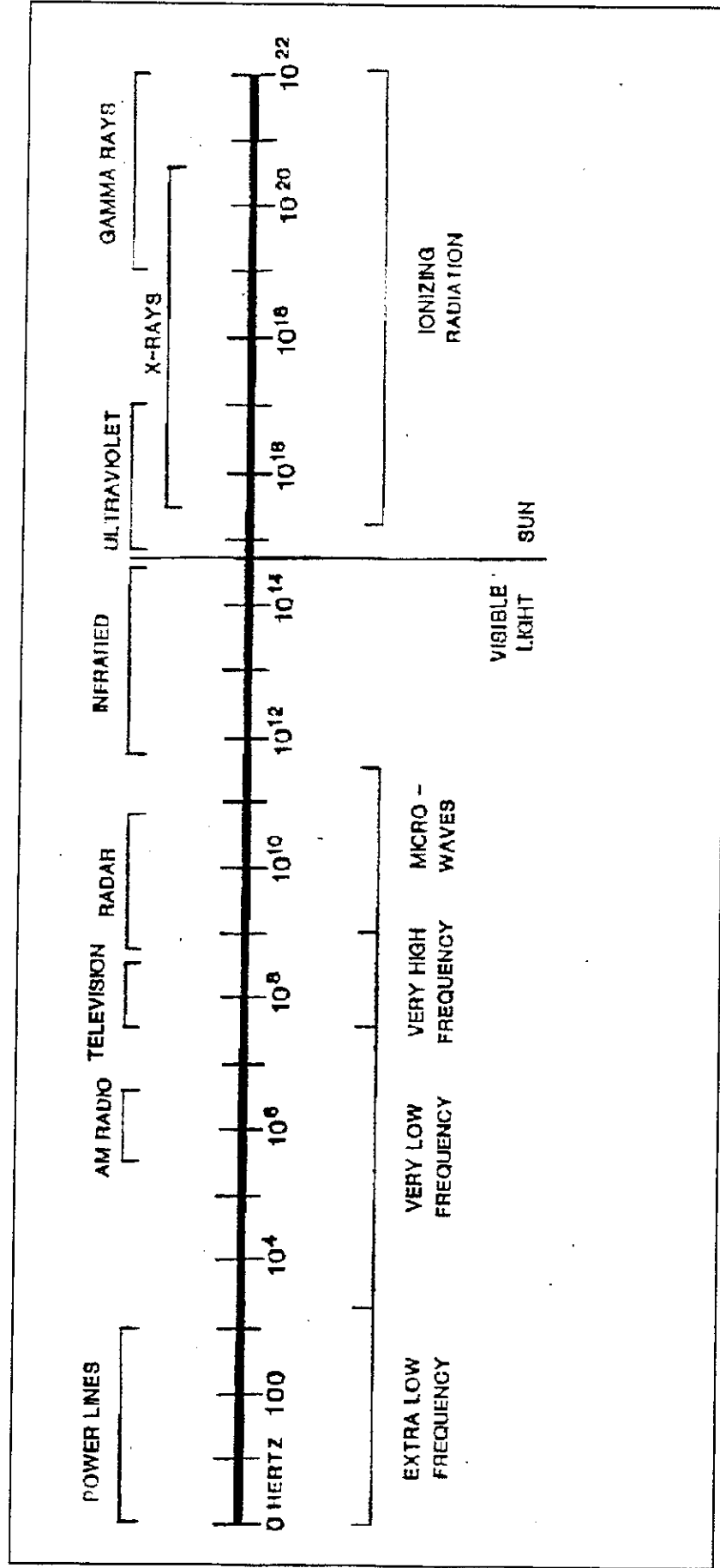
SDG&E currently maintains an electric transmission easement corridor that crosses the southern portion of the proposed project site in an east-west fashion. High power electrical transmission lines generate invisible electric and magnetic lines of force referred to as electromagnetic fields (EMF). There has recently been concern about electromagnetic fields and the relationship to increased incidence of rare forms of cancer. Studies from the late 1970s have suggested a possible relationship between cancer, specifically childhood leukemia, and exposure to electric and magnetic fields or proximity to overhead power lines. The available scientific data do not support a conclusion that electric and/or magnetic fields cause health effects. However, due to increasing concern regarding electromagnetic fields and health effects and the proximity of power lines to potential developments, this issue is addressed in this EIR. CEQA Guidelines Section 15145 states, "If after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact." The following discussion summarizes information gathered to date on EMF effects and their possible ramifications.

High-power transmission lines, such as those located within the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project site generate electromagnetic fields that consist of invisible lines of force that surround anything conducting electricity. An electric field is created when voltage is established on a wire (i.e., when it is plugged in), while magnetic fields are created with the flow of current (i.e., if there is no current, there is no electrically induced magnetic field). These created electric and magnetic fields are widespread in modern America and are generated by all electrical items, including many common household appliances. A small sample of common EMF sources includes refrigerators, televisions, stereos, coffee makers, broilers, electric blankets, fax machines, computers, and light bulbs. Electromagnetic fields are created by charged particles. The electric component of the field pushes or pulls charged particles, such as ions, in the direction of the field. The magnetic component acts on moving charged particles and pushes them perpendicular to their direction of motion.

Commonly distributed electric power is alternating current. This is in contrast to the direct current produced by batteries. An alternating current does not flow steadily in one direction, but alternates back and forth. The power used in North America alternates at 60 cycles per second (the current changes direction 120 times per second), which is known as 60 hertz (Hz). Consequently, the electric and magnetic fields produced by the electric power also oscillate at 60 Hz. Europe and some other areas of the world use a 50 Hz frequency.

The electromagnetic fields produced by 60 Hz power lines have a much lower frequency and, therefore, lower energy than microwaves or X-rays, although they are all forms of electromagnetic energy. For comparison, radio waves operate at approximately  $10^6$  Hz (1,000,000 cycles per second); a television screen operates at approximately  $10^8$  Hz; visible light occurs slightly below  $10^{15}$  Hz; ultraviolet light ranges from about  $10^{15}$  to  $10^{17}$  Hz; and X-rays range from  $10^{16}$  to  $10^{20}$  Hz. The spectrum of electromagnetic wavelengths is shown in Figure 4.12-1, *Approximate Spectrum of Electromagnetic Fields*.





Source: EPRI 1987

Figure 4.12-1  
Approximate Spectrum of Electromagnetic Fields  
Page 4.12-2

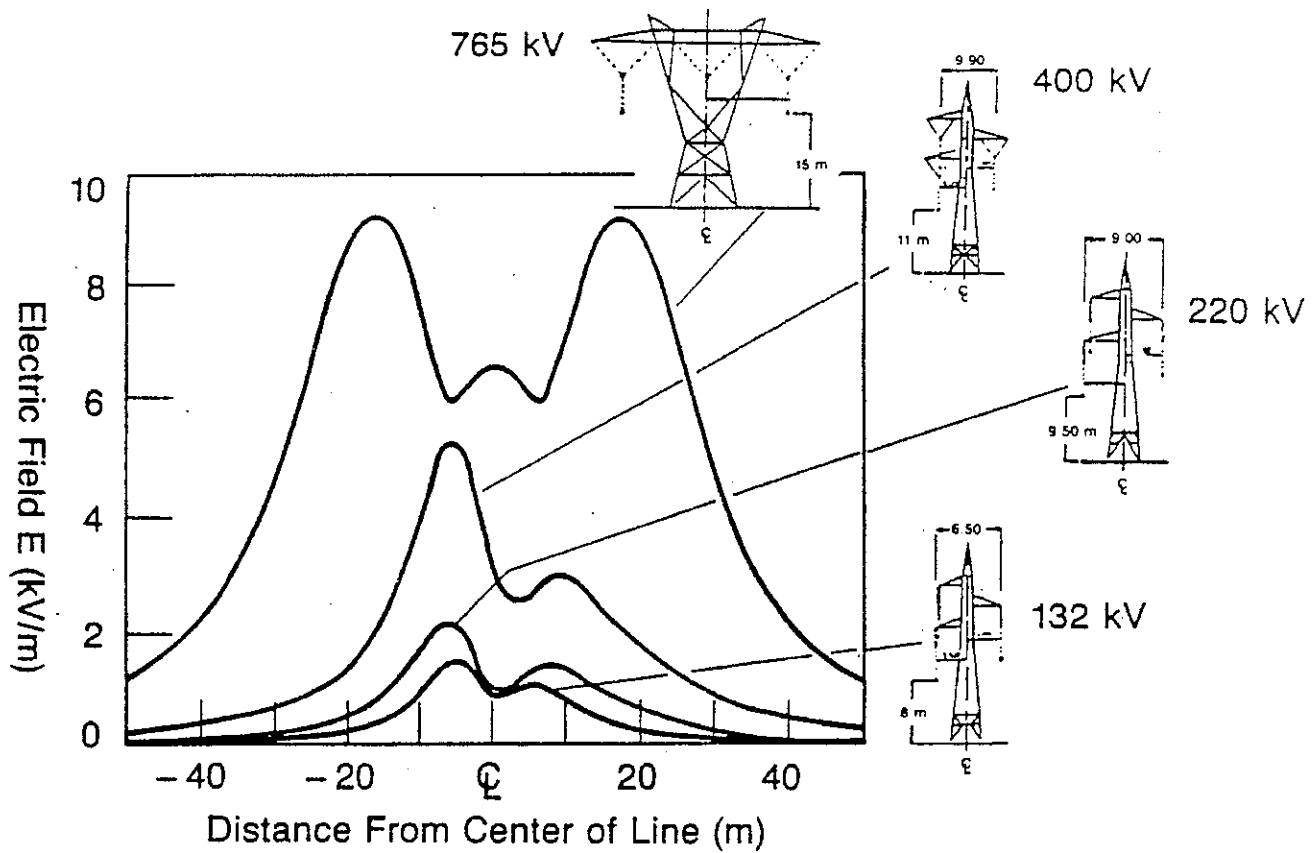
X-rays have enough energy to break apart the molecules that contain genes. Therefore, excessive X-ray exposure can lead to mutations and cancer. When microwave energy passes through materials containing water, the energy is absorbed by the materials and converted to heat. This is how a microwave oven works. The electromagnetic fields produced by 60 Hz transmission lines do not have enough energy to break apart molecules, and although they can cause heating in substances, this heat is barely detectable. Electromagnetic fields from 60 Hz power transmission lines do not have the same effects on the human body as microwaves or X-rays because temperature changes (i.e., temperature changes due to normal biological processes) in human cells are greater than the temperature electromagnetic fields can produce.

Electric fields are measured in volts per meter (V/m) and magnetic fields are measured in teslas or gauss, which equals one ten-thousandth of a tesla. Typical electric field levels within the home or workplace are 1 to 10 V/m. Fields within one foot of small appliances reach 20 to 200 V/m. The field strength directly next to an electric blanket can reach 10,000 V/m. Ten thousand volts per meter is approximately the maximum level directly beneath a 765 kilovolt (kV) transmission line. Electric fields weaken rapidly with increased distance from the source. An electric field with a 10,000 V/m strength at the source will decrease to less than 500 V/m at a distance of 60 meters. Electric fields are also easily blocked by vegetation and buildings. Table 4.12-1, *Typical Values of Created Power Frequency Electric Fields*, shows some common electric field values. Figure 4.12-2, *Lateral Profiles of Electric Field Intensities of Typical Power Lines*, shows a lateral profile of an electric field at ground level for typical transmission lines. These profiles assume a flat ground with no intervening obstacles, such as vegetation or walls.

**TABLE 4.12-1**  
**TYPICAL VALUES OF CREATED POWER FREQUENCY ELECTRIC FIELDS**

Source	Electric Field (V/m) at 11.8 Inches from Source
Electric Cooking	4
Toaster	40
Electric blanket	250
Iron	60
Broiler	130
Hair dryer	40
Vaporizer	40
Refrigerator	60
Color TV	30
Stereo sound equipment	90
Coffee pot	30
Vacuum cleaner	16
Hand mixer	50
Incandescent light bulb	2

The maximum magnetic field value beneath a power distribution line is approximately 50 milligauss (mG), and the magnetic field value directly beneath a 765 kV transmission line is approximately 250 mG. The level directly below a 220 kV line is about 65 mG, which decreases to about 15 mG at a distance of 30 meters. Typical home levels are between 0.1 and 50 mG and the values within several inches of appliances can be 10 to 20 times higher. Unlike electric fields, magnetic fields are not substantially affected by vegetation and buildings. Figure 4.12-3, *Lateral Profiles of Magnetic Flux of Typical Power Lines*, shows a lateral profile of a magnetic field at ground level for typical transmission lines. Table 4.12-2, *Magnetic Fields Measured at 11.8 Inches from Various Household Appliances*, shows some magnetic field values of common household appliances.



Source: IERE (1988)

Figure 4.12-2  
Lateral Profiles of Electric Field Intensities of Typical Power Lines

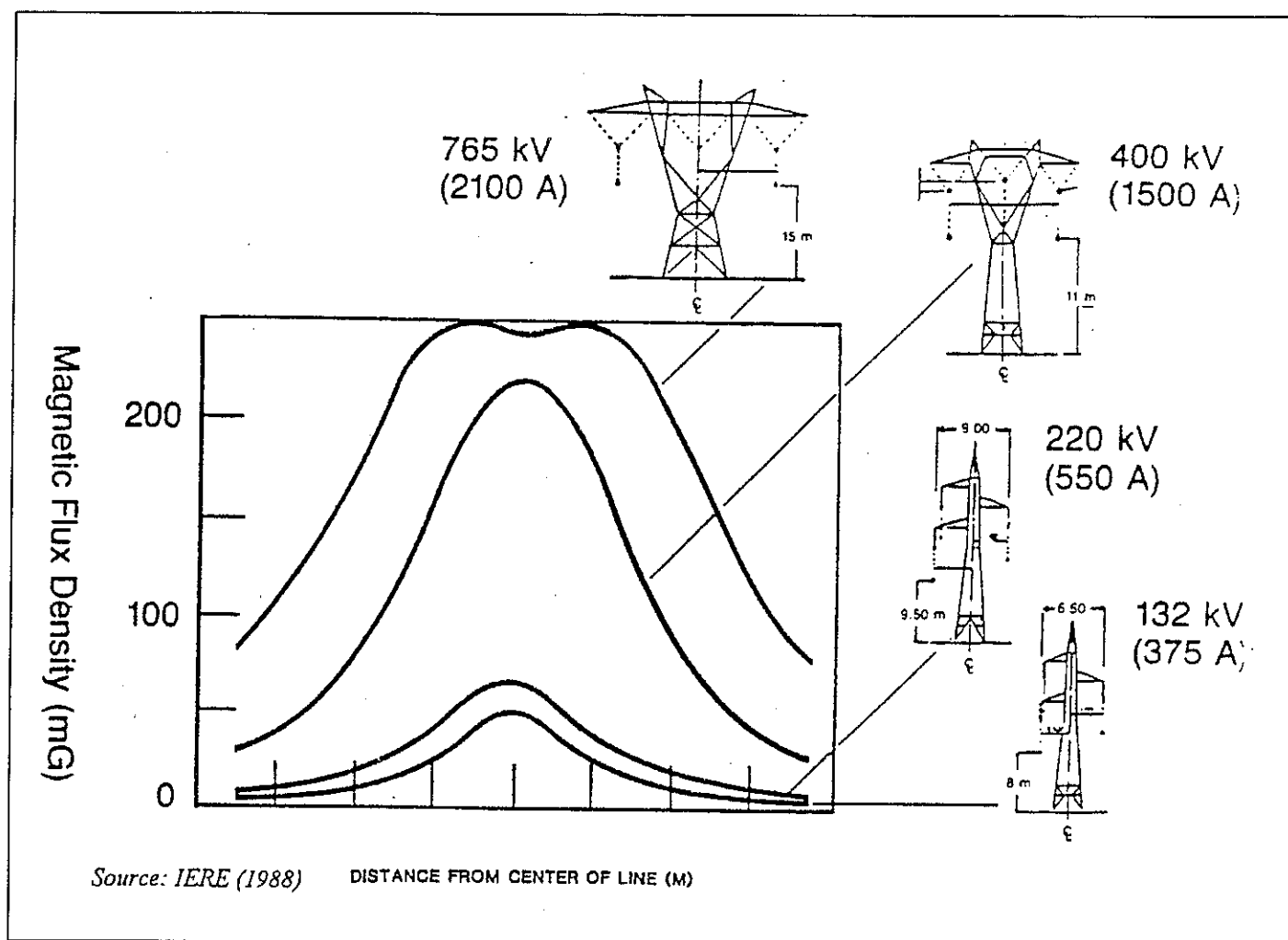


Figure 4.12-3  
Lateral Profiles of Magnetic Flux of Typical Power Lines

**TABLE 4.12-2**  
**MAGNETIC FIELDS MEASURED AT 11.8 INCHES FROM**  
**VARIOUS HOUSEHOLD APPLIANCES**

Appliances	Range of Measured		
Ranges	3	-	50
Ovens	1	-	50
Microwaves	40	-	90
Disposals	8	-	12
Dishwashers	7	-	14
Refrigerators	<0.1	-	3
Washers	2	-	20
Dryers	0.7	-	3
Coffee makers	0.7	-	1.5
Irons	1	-	4
Can openers	30	-	300
Mixers	6	-	150
Blenders	5	-	25
Vacuum cleaners	20	-	200
Portable heaters	1.5	-	40
Fans	0.2	-	40
Hair dryers	<1	-	100
Shavers	1	-	100
Televisions	0.3	-	20
Fluorescent fixtures	20	-	40
Desk lamps	5	-	20
Saws	10	-	300
Drills	25	-	40

Source: International Electricity Research Exchange 1988.

Reports from the Soviet Union of various health complaints among utility workers in high-voltage switchyards in the early 1970s generated worldwide concern regarding the possibility of adverse health effects from exposures to electric fields. Subsequent research on electrical utility workers in Europe and North America failed to confirm the presence of such complaints and, subsequently, Soviet investigators indicated that their earlier concerns had been "overstated."

In the late 1970s and throughout the 1980s, there was concern that magnetic fields may be associated with childhood cancer. The apparent association to date arises from epidemiological studies, which are based on a statistical association between a pattern of disease (such as cancer) and a factor (such as overhead power lines). This is in contrast to laboratory studies, which develop a cause-and-effect relationship from experimental evidence and are reproducible. Several epidemiological studies (studies that investigate disease within the human population) have been conducted on this subject with conflicting results. Some documented epidemiological studies that were conducted have reported weak associations between childhood cancer and exposure to EMF. Other studies that were conducted in a similar manner have reported no associations between cancer related incidents and proximity to power lines.

In 1992, the U.S. Congress instructed the National Institute of Health and the Department of Energy to develop a program of research and analysis for providing evidence to clarify the potential health risks for exposure to EMF. The report was published in 1999, titled *Health Effects from Exposure to Power-line Frequency Electric and Magnetic Fields*. It concluded that there is weak evidence that exposure to EMF causes any health risks. However, EMF exposure cannot be recognized as entirely safe because of weak scientific evidence.

The epidemiological and laboratory studies conducted to date, as a whole, do not support the conclusion that exposure to magnetic fields is a cause of cancer. At present, the scientific community does not support the implementation of standards since science has not identified exposure to EMFs as a health hazard nor has it provided any meaningful dose-response data on which to base standards.

At the local level, the California Public Utilities Commission (CPUC), after investigating the EMF issue, found that available scientific research does not support a conclusion that exposure to low-frequency fields is a health risk. However, the CPUC, SDG&E, and other utilities in California recognize that some public concern and scientific uncertainty exist regarding a potential health risk associated with EMF. As a result, the CPUC issued Decision 93-11-013 on November 2, 1993. In this order, the commission directed California's utilities to standardize guidelines with other utilities where possible.

The possible link between electromagnetic fields from power lines and deleterious health effects has not been established. Thus, no land use setback distances from power lines or easements has been recommended except for the California State Department of Education, which requires a 150 foot setback from 230 kV transmission lines for adjacent school sites.

### **Hazardous Materials**

Hazardous Material concerns associated with the proposed *Bella Lago Precise Plan, Rezone, Tentative Tract Map* project area relate to the potential of existing hazardous materials on the project site. The proposed project site is currently vacant and there are known hazardous materials located on the project site.

### **Fire Hazards**

A Conceptual Fuel Modification Zone Plan (CFMZP) has been prepared by FIREWISE 2000, Inc., titled *Conceptual Fuel Modification Zone Plan for the Bella Lago L.L.C. Development*. The plan evaluates the proposed project site and evaluates the risk for potential fire hazards.

The CFMZP assesses the on-site and off-site wildland fire hazards and risks that may threaten life and property associated with the proposed project. The CFMZP also addresses both the short-term and long-term fuel modification actions required to minimize any projected fire hazards and risks and assigns long-term annual maintenance responsibilities for each of the required fuel modification actions. The purpose of this plan is to provide fuel modification zone treatment direction for developers, architects, builders and the City of Chula Vista Fire Department and planning officials to use in making all proposed structures safe from future wildland fires.

The proposed project site is currently vacant with undisturbed hillsides and natural vegetation. Where native vegetation remains undisturbed on steep slopes, there is a potential for fire hazards. According to the *Conceptual Fuel Modification Zone Plan*, the City of Chula Vista declares the area proposed for the project site a high fire hazard zone. Thousands of fires occur each year in California's brushland. Although fire is beneficial by reviving aging, native vegetation, it poses a hazard to people who live near wildlands. State law requires complete brush clearance within a minimum of 30 feet around all structures. Additionally, the CFMZP recommends that a 50-foot wide low fuel volume buffer strip with no trees and/or shrubs taller than 18 inches should occur around all structures. The CFMZP is illustrated in Figure 4.12-4, *Fuel Modification Zone Plan*.



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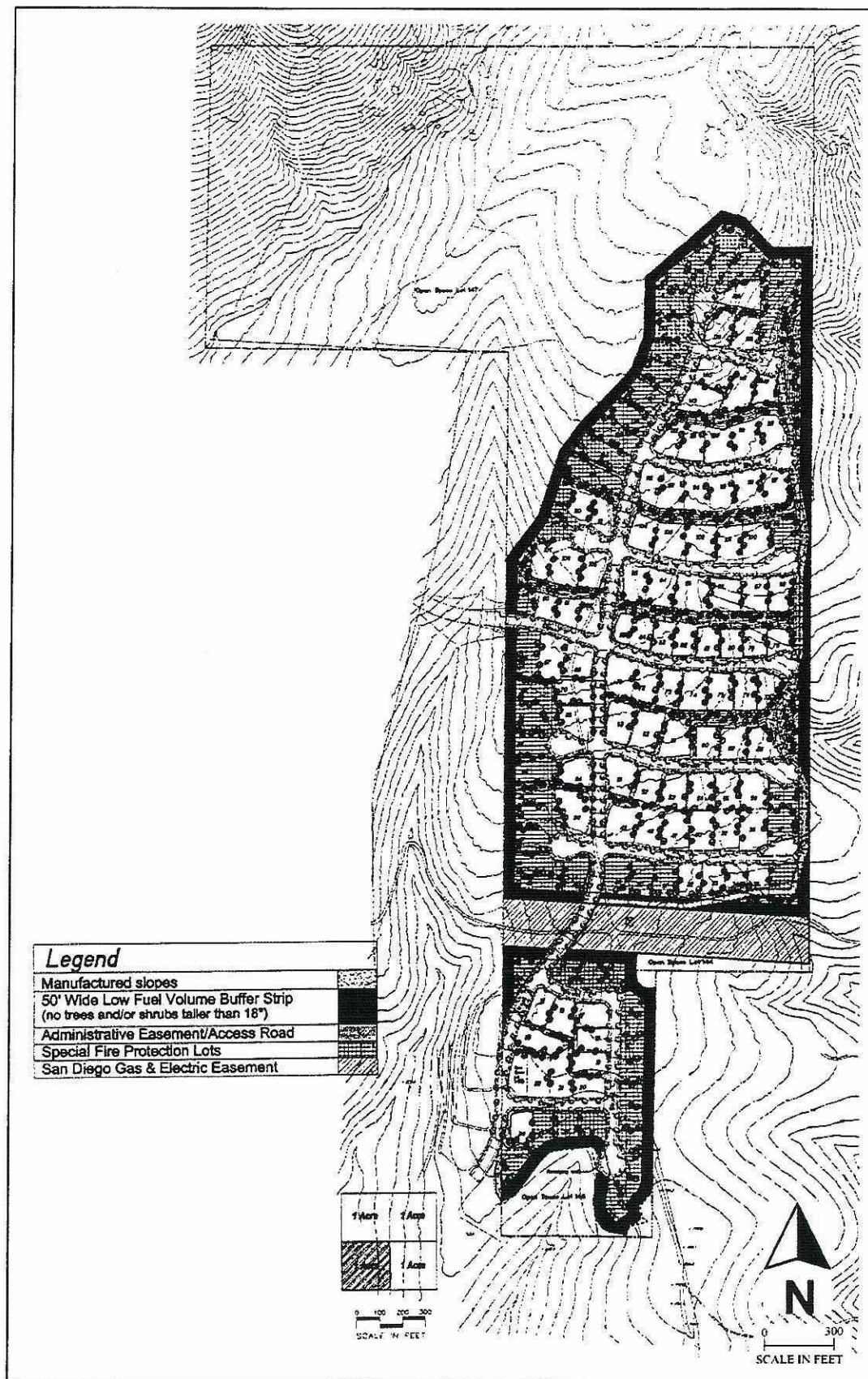


Figure 4.12-4

Fuel Modification Zone Plan

#### **4.12.2 Threshold of Significance**

According to Appendix G of the CEQA Guidelines, the proposed project could result in significant adverse hazards and hazardous materials impacts if the project creates a significant hazard to the public or to the environment.

#### **4.12.3 Impact Analysis**

##### **Electromagnetic Fields**

According to CEQA Guidelines Section 15145, “if, after thorough investigation, a lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact”. The known information about electromagnetic fields is summarized above under Section 4.12.1, *Existing Conditions*, and no conclusion of significance is reached. The existing scientific data are inconclusive and potential impacts are speculative in nature; therefore, this issue area is dismissed from further analysis in this EIR.

##### **Hazardous Materials**

No hazardous materials exist on the proposed project site, and no hazardous materials are anticipated within the proposed residential development. Implementation of the proposed project would not expose future residents to hazardous materials.

##### **Fire Hazards**

The City of Chula Vista has determined that the proposed project site has a high fire hazard severity rate. A fuel modification zone plan has been prepared and accepted by the City of Chula Vista, and incorporated into the proposed project. The proposed project would also require approval from the City Fire Department to ensure that all requirements regarding fire truck access, hydrant location, and evacuation routes have been met.

According to the fuel modification zone plan, the most critical wind pattern to the project area are the Santa Ana winds, which come out of the east/northeast and are usually associated with strong, hot, dry wind conditions with a very low relative humidity. To reduce the project area’s susceptibility to wildland fire, the fuel modification plan includes:

- ◆ A wildland fire hazard rating assessment and expected fire behavior of off-site and on-site native vegetative fuels;
- ◆ A 50-foot wide irrigated low fuel volume buffer strip along the project perimeter that separates the native open space vegetation from the private lot yard “firewise” landscaping. No trees will be allowed in this buffer strip and all shrubs will be maintained to less than 18 inches in height; and
- ◆ Special “Fire Protection Features” for structures on designated lots.

Pertinent to on-site fire hazard and risk assessment, the fuel modification plan identifies five fire protection concepts that would minimize the potential for structure loss at the proposed project site when implemented. The protection concepts are the following:

1. Requiring Class A roof assembly on all project residences;
2. Placement of fire resistant building materials on all residential wall surfaces that are less than 100 feet from and face highly flammable native vegetation;
3. Properly designing the homes and proper placement of these homes within their lot to minimize any threat from wildland fire;
4. Maintaining side and backyards to "firewise" landscaping criteria; and
5. Providing for and maintaining an irrigated 50-foot wide low fuel volume buffer strip along all perimeter lots where no trees are to be planted and replanting of fire resistant ground covers or shrubs less than 18 inches tall. The buffer strip includes all manufactured slopes within 50-feet of the project boundary and some portion of the 40-foot wide sewer easement/fire access road. Only non-combustible building materials can be used in the placement of non-residential structures within this low fuel volume buffer strip (i.e., gazebos, decks, pool changing rooms, etc.). All enclosed non-combustible structures must have an interior sprinkler system.

For off-site hazardous fuels assessment, the fuel modification plan addresses the nature and condition of native vegetation at the eastern, southern, and western boundaries of the project site.

The fuel modification plan includes predictions of fire behavior at the project site, based on the BEHAVE Fire Behavior Prediction Model. By applying that model, assessments of fire behavior at the project site were made for the fire conditions listed below. The fire behavior predictions are provided in Section 2.3, *Predicting Wildland Fire Behavior*, of the fuel modification plan.

- ◆ Western grassland fire burning under a prevailing summer southwest wind pattern;
- ◆ A combined grassland and scattered-sage with grass fire burning under a prevailing summer southwest wind;
- ◆ A late season Santa Ana wind driven fire burning in a grassland;
- ◆ A late season Santa Ana wind driven fire burning in a combined grassland and scattered-sage with grass;
- ◆ A non-typical strong southwest and west wind driven fire occurring within grassland (a rare event occurring only one or two times in a ten year frequency cycle);
- ◆ A non-typical strong southwest and west wind driven fire occurring within a combined grassland and scattered-sage with grass (a rare event occurring only one or two times in a ten year frequency cycle); and
- ◆ Low fuel volume buffer area with irrigated firewise landscaping and no vegetation over eighteen inches tall.

The plan also assesses structure ignitions in the wildland/urban interface, which is not considered a substantial concern for the proposed project due to its compliance with the County of San Diego Wildland/Urban Interface Fire Code Standards. Pursuant to the standards, all homes at the project site would be constructed with non-combustible roofing and designated perimeter lot structures would be constructed with non-combustible building materials. Radiant heat caused by structures that are not being constructed with non-combustible building materials is assessed by the fuel modification plan and would not pose a fire hazard with implementation of the previously described fire prevention concepts. Additionally, the fuel modification plan presents project-specific fuel modification treatments and a fuel treatment location map.

**4.12.4 Level of Significance Before Mitigation****Hazardous Materials**

No hazardous materials exist on the site. Future residents would not be exposed to hazardous materials and no significant impacts would result from implementation of the proposed project. No significant impacts are anticipated.

**Fire Hazards**

A fuel modification zone plan has been prepared for the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project. The proposed project would adhere to this plan, which would minimize the exposure of people or property to significant fire hazards. No significant impacts would be anticipated.

**4.12.5 Mitigation Measures**

Fire safety precautions in the form of fuel modification techniques have been incorporated into a fuel modification zone plan, which is incorporated into the project. No further mitigation measures are required.

**4.12.6 Level of Significance After Mitigation****Fire Hazards**

With adherence to the fuel modification zone plan proposed for the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project, exposure of people or property to significant fire hazards would be reduced to below a level of significance. The fuel modification zone plan would provide a 50-foot clearance, which is required by the City. No significant impacts are anticipated.

## 5.0 OTHER CEQA MANDATED EIR SECTIONS

### 5.1 CUMULATIVE IMPACTS

Section 15355 of the State CEQA Guidelines describes *cumulative impacts* as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. These individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Section 15130(b) of the State CEQA Guidelines describes an adequate discussion of cumulative impacts as one which includes either of the following elements:

- a) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or
- b) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

#### **5.1.1 Projects Evaluated for Cumulative Impacts Analysis**

This section examines cumulative impacts on a regional or local basis depending upon the nature of the impact. For the purposes of this cumulative impact analysis, several scenarios (or “universes” as often described) of potential cumulative effects were considered. Buildout of the City’s General Plan, and more specifically, buildout of the Eastern Territories Area Plan were evaluated for consideration in each cumulative effects analysis. Additionally, specific development projects which would not have been considered in the community plan or general plan evaluations have also been considered.

**Chula Vista General Plan.** The Bella Lago project is located within the City of Chula Vista. The Chula Vista General Plan was last updated in September 1995. The General Plan area covers 58,299 acres, with approximately 28 percent of the City being vacant land. As of January 1990, the City’s population was 131,455 and the General Plan area had a population of 146,000. The target buildout population for the City is 268,000 people.

**Eastern Territories Area Plan.** The Eastern Territories Area Plan is part of the City’s General Plan. The Eastern Territories is a 37,585 acre area located east and south of the City and is comprised largely of unincorporated land. In 1988 the Eastern Territories area had a population of 7,400. The majority of new urban development within the City is expected to occur within the Eastern Territories. It is estimated that 24,700 acres of land within this area is or would be developed, and approximately 14,200 acres is unsuitable for development.



Past, present and probable projects that could contribute to a significant cumulative environmental impact with the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project are identified in Table 5-1 below.

**TABLE 5-1**  
**PROJECTS EVALUATED FOR CUMULATIVE IMPACTS ANALYSIS**

Project	Description	Status
<b>Terra Nova</b>	Planned Community with 529 single family units, 739 multi-family units, church, elementary school, neighborhood park, community commercial uses, and open space.	CONSTRUCTED
<b>Rancho Del Rey I, II</b>	Planned Community with 2,535 single family units, 148 multi-family units, community and other commercial, neighborhood park, community purpose facility, and a 20 acre junior high school.	CONSTRUCTED
<b>Rancho Del Rey III</b>	Planned Community with 2,512 single family units, 298 multi-family units, neighborhood park, 108 acre open space preserve, and 26 acre junior high school.	DEVELOPING
<b>Sunbow SPA Plan</b>	Planned Community with 1,382 single family units, 1,073 multi-family units, neighborhood park, elementary school, community commercial, industrial park, veterans home, 28 acre hospital, and 176 acre open space.	DEVELOPING
<b>Bonita Long Canyon</b>	Planned Community with 341 single family units, 153 multi-family units, 43 acre open space preserve, 47 acre senior high school, and neighborhood commercial uses.	CONSTRUCTED
<b>Bonita Meadows</b>	Subdivision with 300 single family units.	PLANNED
<b>San Miguel Ranch</b>	Planned Community with 1,394 low, low-medium, medium, and medium-high density residential units.	PLANNED
<b>EastLake III GDP/Olympic Training Center</b>	Planned Community with 300 multi-family units (DEVELOPING), and a 150 acre Olympic training center.	CONSTRUCTED
<b>EastLake I and Business Park</b>	A 130 acre industrial park with 55 acres of light industrial, low rise offices, neighborhood park, and fire or police station.	DEVELOPING
<b>EastLake Woods/Vistas</b>	Planned Community with 2,061 single family units, commercial tourist, commercial retail uses, schools, park and recreation areas and a fire station site.	PLANNED
<b>EastLake Trails/Greens</b>	Planned Community with 2,788 single family units, 2,100 multi-family units, senior high school, two elementary schools, 158 acre golf course/clubhouse, community commercial, freeway commercial, two neighborhood parks, low rise office, church, community purpose facility, and private park.	DEVELOPING
<b>Otay Ranch GDP/SRP</b>	Planned Community with 24,224 dwelling units on 22,899 acres. The project includes a regional commercial urban center and a University Site.	DEVELOPING
<b>Salt Creek I</b>	A subdivision with 163 single family units and 337 multi-family units.	COMPLETED

Project	Description	Status
Rolling Hills Ranch	Planned Community with 2,099 single-family units, 284 multi-family 2,616 residential units, community purpose facility, two elementary schools, a fire/police station, and a 20 acre community park.	DEVELOPING
College Estates	Planned Community with 949 residential units.	COMPLETED
Southwestern College Estates	Planned Community with 599 residential units.	COMPLETED
Salt Creek Interceptor and Wolf Canyon Trunk Sewer		UNDER REVIEW
Telegraph Canyon Estates	Planned Community with 344 single family units.	DEVELOPING
Vista Mother Miguel	Planned Community with 40 single family units.	UNDER REVIEW
SR-125	A toll road/freeway.	UNDER REVIEW

### 5.1.2 Cumulative Impacts Analysis

While the extent of environmental changes that would occur with the individual developments identified above may not be significant, the sum of these related projects, including the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project, has the potential to create significant cumulative environmental impacts in the project area. Based on the analysis contained in Section 4, *Environmental Impact Analysis*, of this EIR, the project may contribute to cumulative impacts for biological resources, landform and aesthetics, traffic circulation and access, and hydrology/water quality.

### Biological Resources

As discussed in Section 4.2, *Biological Resources*, of this EIR, development of the project would occur on 93.1 acres of undeveloped land, resulting in a loss of approximately 93.1 acres of habitat land. The 93.1 acres includes sensitive species and habitat such as coastal sage scrub habitat and the Otay tarplant. Although 86.5 acres of on-site habitat land would be conserved as part of the project, development of the 93.1 acres would contribute to a cumulative impact on biological resources in the region in conjunction with on-going development in the area.

Mitigation measures have been developed for each project to preserve biological resources in each of the project areas. However, the cumulative impact of these developments on sensitive species and habitats is adverse and significant. The projects would significantly reduce the amount of certain sensitive habitats such as San Diegan coastal sage scrub, native grasslands, and non-native grasslands in the area. In addition, significant impacts to numerous state and federally listed sensitive plants including variegated dudleya, San Diego goldenstar, coast barrel cactus, and Otay tarplant, would occur, and regionally significant wildlife corridors would be affected. In accordance with the City's Draft MSCP Subarea Plan, the developer of the Bella Lago project would set aside 86.5 acres of open space within the project boundary and set aside an additional 2.5 acres of open space through purchase of off-site habitat land to mitigate for the project's incremental contribution to cumulatively significant impacts associated with biological resources.

On a region-wide basis, the cumulative loss of sensitive habitats and species would be mitigated through the City's adoption of the Draft MSCP. The MSCP provides for the long-term protection of sensitive habitats and species and mitigates for the incremental loss of such resources on a region-wide level. Compliance with the City's MSCP Subarea Plan and off-site habitat preservation/mitigation programs would reduce cumulatively significant impacts on biological resources to below a level of significance.

## Landform and Aesthetics

The project, in conjunction with other development in the Eastern Territories, would result in the urbanization of an existing natural area. A permanent change on visual resources and views would occur. The total grading of all project sites would alter the natural landform considerably. In addition, project grading and development would contribute to an unavoidable, unmitigatable cumulative impact on the visual quality of the area and add to nighttime illumination impacts in the San Diego region. However, development of the Eastern Territories has been considered in the City's General Plan and development of this area would implement the General Plan. While cumulative impacts to landform alteration and aesthetics would occur, these are not considered an adverse cumulative impact.

## Traffic Circulation and Access

As discussed in Section 4.7, *Traffic Circulation and Access*, the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would not result in significant direct impacts to the community and regional circulation systems. However, when considered with other existing and future traffic in the project area, the project would contribute to traffic congestion within the project area and significant cumulative impacts on intersections would result. No significant cumulative impacts would occur on street segments. According to the traffic analysis performed by Linscott, Law and Greenspan, significant cumulative impacts would occur to the following three intersections:

- ◆ Proctor Valley Road/Mount Miguel Road;
- ◆ Proctor Valley Road/Lane Avenue; and
- ◆ Proctor Valley Road/Hunte Parkway.

The Proctor Valley Road/Mount Miguel Road and Proctor Valley Road/Lane Avenue intersections are projected to operate at a LOS F under Year 2005 without SR 125 conditions, and the Proctor Valley Road/Hunte Parkway intersection is projected to operate at a LOS E under Year 2005 without SR 125 conditions. Please refer to Section 4.7 of this EIR for a detailed discussion of these cumulative impacts, along with the identified mitigation measures.

City thresholds may also be cumulatively exceeded before SR 125 is constructed at East H Street, Telegraph Canyon Road, and Olympic Parkway. Cumulative impacts at these roadway segments are dependent on the number of dwelling units constructed within the Eastern Territories. According to an analysis completed by Linscott, Law and Greenspan in June 2000, a cumulative impact on roadway segments could result if more than 9,429 dwelling units are constructed in the Eastern Territories between 2000 until SR 125 is complete. Please refer to Section 4.7 of this EIR for a discussion of these potential cumulative impacts, along with the identified mitigation measures.

## Hydrology/Water Quality

The project, in conjunction with the development of other projects in the Eastern Territories, would increase the amount of impervious surfaces, decrease ground water replenishment, aggravate existing downstream drainage and flooding problems, and contribute to water quality degradation downstream and in the Upper Otay Reservoir. Runoff flowing across developed sites can pick up contaminants from landscaping and areas used by motor vehicles, such as parking lots, driveways, and streets. As a condition of the Bella Lago

development project and in accordance with the regulations of the RWQCB, engineering and design features would be required that ensure water quality in the Otay reservoirs is maintained. Other projects in the vicinity would be similarly required to adhere to NPDES and RWQCB requirements, which are directed at reducing the amount of urban pollutants entering natural water courses and sensitive coastal resources.

## 5.2 GROWTH INDUCEMENT

Section 15126.2(d) of the CEQA Guidelines requires an EIR to discuss the ways in which the proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly in the surrounding environment. Included in this analysis would be the potential for a project to remove obstacles to population growth. To illustrate this point, the CEQA Guidelines use as an example, the major expansion of a wastewater treatment plant that may allow for more construction and development within the service area. Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. In addition, the growth-inducing effects analysis should include an assessment of how the project may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. The Guidelines further state that it should not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. The following discussion considers ways the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project could encourage economic or population growth, either directly or indirectly.

Generally, growth-inducing impacts refer to impacts from projects that possess such characteristics as being located in isolated, undeveloped or underdeveloped areas, necessitating the extension of major infrastructure (e.g., roadways, sewer and water lines and facilities, etc.) or other services or infrastructure that encourage “premature” or unplanned growth (i.e., “leap frog” development). In addition, projects that induce new development in nearby areas due to the provision of major infrastructure, employment centers, or residential communities may be considered to have growth-inducing impacts.

Bella Lago is proposed to be developed with 140 large estate residences on 93.1 acres of the approximately 180-acre site. The remaining 86.5 acres would be preserved as open space in accordance with the City’s Draft MSCP Subarea Plan. The project site is located within the portion of the Eastern Territories Planning Area designated for development. The Bella Lago development would be bordered by the approved Rolling Hills Ranch development on the west, and open space Preserve lands on the north, east, and south sides. Although the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project represents an extension of development within the Eastern Territories Planning Area, future extensions of development would be restricted by the identified Preserve areas which surround the project site to the north, east, and south. Therefore, development of Bella Lago would not encourage development of other adjacent sites.

There is no existing infrastructure on the project site. Development of Bella Lago would require new or extended facilities to serve the site. Infrastructure, public services, utilities, and roadways would be extended from the adjacent Rolling Hills Ranch project and made available commensurate with development.

## 5.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

As required by Section 15126.2(c) of the CEQA Guidelines, the significant effects of a project shall be identified. Irreversible commitments of resources are evaluated to assure that their use is justified. Irreversible environmental changes typically fall into three categories: primary impacts, such as the use of

nonrenewable resources; secondary impacts, such as highway improvements which provide access to previously inaccessible areas; and environmental accidents associated with a project.

As identified in Section 5.1.2 above, the proposed project would contribute to significant, irreversible effects on Biological Resources and Landform and Aesthetics. Development of Bella Lago would impact natural habitat in Chula Vista, including sensitive habitats such as coastal sage scrub, and native grasslands. The project may also impact state and/or federally listed sensitive plants and wildlife. Although Bella Lago is a "Covered Project" under the City's MSCP Subarea Plan and would preserve 89 acres of habitat land on-site in addition to providing off-site mitigation, an incremental loss of quality biological habitat would result from development of Bella Lago.

The grading associated with the development of the Bella Lago would permanently alter the existing landform of the project site. The grading plan proposes to follow the natural slopes of the site to the extent feasible, in order to minimize impacts to landform alteration of visual quality. However, existing landforms and views of the site would be affected. In addition, street lighting and lighting associated with residential uses would be introduced to the project site. Although the lighting would comply with City requirements, introduction of light sources on the project site would impact the nighttime views of the site.

Energy would be required for both the construction of the project and to serve the project over the long-term. The primary energy source would be fossil fuels, representing an irreversible commitment of this resource. Construction of the project would also require the use of construction materials, including cement, concrete, lumber, steel, etc., and labor. These resources would also be irreversibly committed.

## **5.4 EFFECTS FOUND NOT TO BE SIGNIFICANT**

Pursuant to CEQA Section 15060, the City of Chula Vista determined that an EIR would clearly be required for the project and an initial study was not prepared. The City also determined that the proposed project would not have the potential to cause adverse effects associated with the following issue area, and these areas have not been addressed in this EIR.

### **5.4.1 Agricultural Resources**

The project site does not contain land that is designated as prime agricultural soils by the Soils Conservation Service, nor does it contain prime farmlands designated by the California Department of Conservation. The site is not subject to, nor is it near, a Williamson Act contract site pursuant to Sections 51200-51207 of the California Government Code. Therefore, impacts associated with agricultural resources are not considered significant.

The project area is not designated as a prime farmland, unique farmland, or a farmland of statewide importance. The site is not designated as farmland under the *Farmland Mapping and Monitoring Program* of the California Department of Conservation or the City's General Plan. Although the site is currently undeveloped, no agricultural lands are located on the site. No impact on important farmlands would occur with the proposed project.

### **5.4.2 Mineral Resources**

The project site consists of approximately 180 acres of undisturbed land. No mining operations have

occurred or are projected to occur on the site due to the underlying rock formations found throughout the site. The construction of the project would involve grading activities that would disturb the surface of the site. However, due to the site's geological composition, the proposed project is not expected to result in the loss of availability of any mineral resources that would be a value to the region.

#### **5.4.3 Population/Housing**

The proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would construct 140 residences on large, estate lots, contributing to the City's housing stock. It would not significantly alter the planned location, distribution, or growth of the human population in the area, nor would it create a demand for additional housing. No significant impact on population or housing would occur with the proposed project.



## 6.0 ALTERNATIVES

In accordance with Section 15126.6(a) of the CEQA Guidelines, an EIR must contain “a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project,” as well as an evaluation of the “comparative merits of the alternatives.” In addition, Section 15126.6(b) of the CEQA Guidelines states that “the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.”

This EIR concludes that the proposed project would result in significant impacts to biological resources, noise, air quality, cultural resources, traffic, circulation and access, hydrology/drainage/water quality, geology and soils, and paleontological resources; however, mitigation measures would reduce any impact to below a level of significance. No impacts to land use, planning and zoning, landform alteration/aesthetics, utilities and public services, public health and safety, or City threshold and standards policy were identified in this EIR, and no significant, unavoidable impacts were identified. The alternatives described below have the potential to meet the objectives of the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project. Each alternative is considered within this EIR for its ability to avoid, reduce, or mitigate significant physical environmental effects associated with the proposed project, even in the event project objectives may be modified or such alternative is more costly.

Two alternatives for the Bella Lago project are considered and discussed in this section. These include the “No Project” alternative that is mandated by CEQA and the “Development Under the R-1-5 Zone” alternative that was developed in the course of project planning and environmental review for the proposed Bella Lago residential development.

Other alternatives for the proposed residential development project were also considered; however, they were found to be unfeasible for various reasons. Alternative locations for the project were also considered, as required by Section 15126.6 of the CEQA Guidelines, however, no alternative location was identified that would avoid or substantially reduce the impacts from the proposed project and meet the project’s goals. Alternatives that were considered but rejected are discussed in detail under Section 6.3 of this EIR.

The impacts of each alternative considered are analyzed in Sections 6.1 and 6.2 of this EIR. The review of alternatives includes an evaluation to determine if any specific environmental characteristic would have an effect that is “significantly” different than the proposed project. A significant effect is defined in Section 15382 of the CEQA Guidelines as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project.” The discussion of alternatives provides:

- ◆ A description of alternative considered;
- ◆ The identification of the impacts of the alternative;
- ◆ A comparative analysis of the impacts of the alternative under consideration and the proposed project. The focus of this comparative analysis is to determine if the alternative is capable of eliminating or reducing the significant environmental effects of the proposed project to a less than significant level;
- ◆ An analysis of whether the alternatives are feasible (as defined by State CEQA Guidelines, Section 15364), meet the objectives of the project (described in Section 3.0 of this EIR), and remain under consideration;

Table 6-1, *Comparison of Alternatives to Proposed Project*, summarizes the environmental impacts of the project alternatives.

TABLE 6-1  
COMPARISON OF ALTERNATIVES TO PROPOSED PROJECT

Environmental Impacts	Proposed Project	Comparison of Alternatives Impacts to Proposed Project	
		Alternative 1 No Project/No Development	Alternative 2 Development Under the R-1-5 Zone
AESTHETICS			
Would the project have a substantial adverse effect on a scenic vista?	Less than Significant	Less	Equal
Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact	Less	Less
Substantially degrade the existing visual character or quality of the site and its surroundings?	Less than Significant	Less	Equal
Create a new source of light or glare which would adversely affect day or nighttime views in the area?	Less than Significant	Less	Equal
AIR QUALITY			
Would the project violate any air quality standard or contribute to an existing or projected air quality violation?	Less than Significant with Mitigation	Less	Equal
Conflict with or obstruct implementation of the applicable air quality plan?	No Impact	Equal	Equal
Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Less than Significant	Less	Equal
Expose sensitive receptors to pollutants?	No Impact	Less	Equal
Create objectionable odors?	No Impact	Equal	Equal
BIOLOGICAL RESOURCES			
Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	Less than Significant with Mitigation	Less	Less
Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means?	Less than Significant	Less	Equal

Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less than Significant	Less	Equal
Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact	Equal	Equal
Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No Impact	Greater	Equal
<b>CULTURAL RESOURCES</b>			
Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	Less than Significant	Less	Equal
Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Less than Significant Impact	Less	Equal
Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Less than Significant Impact with Mitigation	Less	Equal
Disturb any human remains, including those interred outside of formal cemeteries?	Less than Significant Impact with Mitigation	Less	Equal
<b>GEOLOGY AND SOILS</b>			
Would the project result or expose people to potential impacts involving: fault rupture?	No Impact	Less	Equal
Seismic ground shaking?	Less than Significant	Less	Equal
Seismic-related ground failure, including liquefaction?	No Impact	Less	Equal
Landslides?	No Impact	Less	Equal
Result in substantial soil erosion or the loss of topsoil?	No Impact	Less	Equal
Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	No Impact	Equal	Equal
Be located on expansive soils, creating substantial risks to life or property?	Less than Significant with Mitigation	Less	Equal
Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of	No Impact	Equal	Equal

wastewater?				
<b>HYDROLOGY AND WATER QUALITY</b>				
Would the project violate any water quality standards or waste discharge requirements?	Less than Significant	Less		Equal
Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a new deficit in aquifer volume or a lowering of the local groundwater table level?	Less than Significant	Less		Equal
Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	Less than Significant	Less		Equal
Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	Less than Significant	Less		Equal
Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	Less than Significant	Less		Equal
Otherwise substantially degrade water quality?	Less than Significant	Less		Equal
Place housing within a 100-year flood hazard area, or structures that would impede or redirect flood flows?	No Impact	Equal		Equal
Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	No Impact	Equal		Equal
Inundation by seiche, tsunami, or mudflow?	No Impact	Equal		Equal
<b>LAND USE AND PLANNING</b>				
Would the project physically divide an established community?	No Impact	Equal		Equal
Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect?	No Impact	Greater		Greater
Conflict with any applicable habitat conservation plan or natural community conservation plan?	No Impact	Greater		Equal

MINERAL RESOURCES			
Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No Impact	Equal	Equal
Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No Impact	Equal	Equal
NOISE			
Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	No Impact	Less	Equal
Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	No Impact	Equal	Equal
A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	No Impact	Less	Equal
A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	Less than Significant with Mitigation	Less	Equal
For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No Impact	Equal	Equal
For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	No Impact	Equal	Equal
POPULATION AND HOUSING			
Would the project induce substantial population growth in an area, either directly or indirectly?	Less than Significant	Less	Equal
Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	No Impact	Equal	Equal
Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	No Impact	Equal	Equal

<b>PUBLIC SERVICES</b>			
Would the project result in substantial adverse physical impacts associated with the provision of or need for any of the following public services: Fire protection?	Less than Significant	Less	Equal
Police protection?	Less than Significant	Less	Equal
Schools?	Less than Significant	Less	Equal
Parks?	Less than Significant	Less	Equal
Other public facilities?	Less than Significant	Less	Equal
<b>RECREATION</b>			
Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Less than Significant	Less	Equal
Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No Impact	Equal	Equal
<b>TRANSPORTATION/CIRCULATION</b>			
Would the project cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system?	Less than Significant with Mitigation	Less	Equal
Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	Significant	Less	Equal
Result in a change in air traffic patterns, including either as increase in traffic levels or a change in location that results in substantial safety risks?	No Impact	Equal	Equal
Substantially increase hazards due to a design feature or incompatible uses?	No Impact	Equal	Equal
Result in inadequate emergency access?	No Impact	Equal	Equal
Result in inadequate parking capacity?	No Impact	Equal	Equal
Conflict with adopted policies, plans, or programs supporting alternative transportation?	No Impact	Greater	Equal
<b>UTILITIES AND SERVICE SYSTEMS</b>			
Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	Less than Significant	Less	Equal



Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Less than Significant	Less	Equal
Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Less than Significant	Less	Equal
Have sufficient water supplies available to serve the project form existing entitlements and resources, or are new or expanded entitlements needed?	No Impact	Less	Equal
Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	No Impact	Less	Equal

## **6.1 ALTERNATIVE ONE – NO PROJECT/NO DEVELOPMENT**

### **6.1.1 Description of Alternative**

Under the “No Project/No Development” alternative, the project site would remain as it is today, and no development would occur. The approximately 180-acre project site would remain undeveloped with residential developments to the west and Preserve lands to the north, east and south. This alternative would not allow for the inclusion of 89 acres as Preserve Lands in accordance with the Chula Vista MSCP Subarea Plan. With respect to the major issues discussed in Section 4, *Environmental Impact Analysis*, of this EIR, the No Project/No Development alternative would not result in impacts to land use, paleontological resources, traffic, noise, air quality, cultural resources, geology and soils, and hydrology. Cumulative Impacts to landform and aesthetics, traffic, and hydrology and water quality would be reduced. However, impacts to biological resources would occur because the project would not dedicate natural lands to the Preserve, as identified in the City’s Draft MSCP Subarea Plan. With the No Project/No Development alternative, the site would not be permanently removed from future development, since at some future time the area could be developed to densities allowed under current City policies.

### **6.1.2 Environmental Analysis of Alternative**

#### **Land Use, Planning and Zoning**

The No Project/No Development alternative would not require a rezone. However, this alternative would not implement the Chula Vista General Plan because the project site has been designated for development and no development would occur under this scenario. In addition, this alternative would not implement the City’s MSCP because no lands would be contributed to the Preserve. Therefore, impacts to land use and planning would be greater than the proposed project.

#### **Biological Resources**

Since no development would occur under the No Project/No Development alternative, the project site would remain in its current state. Under the No Project/No Development alternative, impacts to native grassland/coastal sage scrub, coastal sage scrub, and non-native grassland habitats would not occur. On the other hand, the 86.5 acres of on-site open space land and 2.5 acres of off-site mitigation land would not be designated for Preserve Lands in accordance with the Chula Vista Draft MSCP Subarea Plan. Therefore, this alternative would not implement the MSCP, which would be considered a significant impact, and would result in a greater impact than the proposed project.

#### **Landform Alteration/Aesthetics**

Under this alternative, 140 residential units would not be constructed, no grading activities would occur, and there would be no landform alteration. Views of the site would remain open space. Impacts to landform alteration and aesthetics would be less than the proposed project.

## Noise

Under the No Project/No Development alternative, no development would occur. No construction related activities would take place which would lead to significant temporary noise impacts. Under this alternative, impacts relating to noise would be less than the proposed alternative.

## Air Quality

The No Project/No Development Alternative would avoid incremental contribution to the degradation of regional air quality. Compared to the proposed project, impacts on air quality under this alternative would be less.

## Cultural Resources

Under this alternative, no development of residential units would occur. Therefore, there would be no construction and grading activities. The potential for impacts to cultural resources would be avoided. Thus, impacts would be less than the proposed project.

## Transportation, Circulation and Access

Under this alternative, the development of 140 single-family residential units would not occur. No development of the project site would eliminate traffic contributions to existing and planned roadways. No impacts to intersections would occur. At the same time, no contribution would be made to roadway improvements. Impacts to traffic and circulation would be less than the proposed project.

## Hydrology/Drainage/Water Quality

Under the No Project/No Development Alternative, no development would occur. The proposed project site would remain in its natural state, and there would be no new drainage facilities nor erosion control. In comparison to the proposed project, the No Project/No Development Alternative would see increased amounts of sedimentation in runoff and would not direct runoff to storm drains. Impacts associated with an increase in runoff pollution would not occur under this alternative, and no increase in impervious surfaces would occur. Impacts to Hydrology/Drainage/Water Quality would be different than the proposed *Bella Lago Precise Plan, Rezone, and Tentative Map* project.

## Geology and Soils

The No Project/No Development alternative would avoid impacts associated with geology, because the development of 140 residential units would not occur. Impacts under this alternative would be less than the proposed project.

## Paleontological Resources

Under the No Project/No Development alternative, the 93.1 acres out of the approximately 180-acre site would not be developed with residential estates. Grading activities would not occur; thus, the potential for impacts to paleontological resources would be avoided. Impacts under this alternative would be less than the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project.

## **Public Services and Utilities**

Under this alternative, no public services or utilities extension to the site would occur, because no development would occur. The No Project/No Development alternative would reduce the demand for public parks, schools, and libraries in the project vicinity. The increase in the demand for police, fire, and emergency services would be reduced. Impacts to public services and utilities would be less than the proposed project.

## **Public Health and Safety**

Under the No Project/No Development Alternative, the development of 140 residential units would not occur. Also, the 89 acres of open space would not be designated as Preserve lands in accordance with the City's MSCP Subarea Plan. Humans would not be exposed to EMF, although project impacts are considered insignificant due to insufficient information. Humans and structures would not be exposed to fire hazards either. Impacts to hazards and hazardous materials would be less than the proposed project, although impacts from the proposed project are not considered significant.

### **6.1.3 Summary of Alternative Analysis**

The No Project/No Development Alternative would not meet any of the project objectives as listed in Section 3.2, *Project Objectives*, of this EIR. This alternative would leave the site as it exists today – undeveloped. Impacts associated with transportation, circulation and access, public services and utilities, air quality, noise, cultural resources, paleontological resources, and geology and soils would be reduced or avoided. Impacts to land use, biological resources, and hydrology/drainage/water quality would be greater.

## **6.2 ALTERNATIVE TWO – DEVELOPMENT UNDER THE R-1-5 ZONE**

### **6.2.1 Description of Alternative**

Under the Development Under the R-1-5 Zone alternative, the same number of residential units would be constructed in a cluster formation within the approximately 180-acre-site. Cluster development is the grouping of residential units on a portion of the available land, reserving a significant amount of the site as protected open space. This type of development is geared to clustering units on smaller lots and preserving open space, protecting critical ecological habitat and preserving natural land. Under this alternative, the same amount of residential units (140) would occur, and the project site would be rezoned to R-1-5. The R-1-5 zone designation allows for the development of single-family detached dwelling units on minimum 5,000 square foot lots. By clustering the residential units, it is assumed that each dwelling unit would be developed within its minimum lot size. Therefore the development of 140 residential units would be developed on approximately 16.1 acres (700,000 square feet) of land. The remaining 163.8 acres would be set aside as natural open space.

This alternative would require a zoning reclassification from Planned Community (P-C) to Single-Family Residential (R-1-5) with a Precise Plan (P) Modifying District. The site would also be redesignated from Residential Low (0-3 du per acre) to Residential Medium (6 to 11 du per acre). The P Modifying District would require development of the site pursuant to a Precise Plan. Through adoption of a Precise Plan, the City would be provided with design and planning controls necessary to ensure that the project will meet or

exceed planning expectations. This would allow for diversification in the spatial relationship of land use, as well as design review of architecture and signs.

### **6.2.2 Environmental Analysis of Alternative**

#### **Land Use, Planning and Zoning**

The Development Under the R-1-5 Zone alternative would involve a rezone from Planned Community (P-C) to Single-Family Residential (R-1-5) with a Precise Plan (P) Modifying District. This alternative would also require a General Plan Amendment to redesignate the project site from Residential Low (0 to 3 du per acre) to Residential Medium (6 to 11 du per acre). The Development Under the R-1-5 Zone alternative would comply with the City's Draft MSCP Subarea Plan and would allow for the dedication of additional land to the City's Preserve area since development would occur on a smaller area. The rezone associated with this alternative would be a new impact on land use, because it would not develop very low residential land uses as currently designated by the General Plan. Impacts under this alternative would be different than the proposed project, although impacts would not be considered significant.

#### **Biological Resources**

Development Under the R-1-5 Zone of 140 residential units on 5,000 square foot lots would result in the disturbance of approximately 16.1 acres of existing undisturbed land. Impacts to native grassland and coastal sage scrub habitats would occur on those 16.1 acres. However, the remaining 163.8 acres of land would be set aside as natural open space, which greatly exceeds the requirements of the City's Draft MSCP Subarea Plan. Impacts under this alternative would be reduced from the proposed project because a smaller amount of natural land would be disturbed; however, impacts to biological resources would not be avoided. Significant impacts to biological resources could occur under this alternative and would require mitigation.

#### **Landform Alteration/Aesthetics**

Under this alternative, 140 residential units would be constructed within approximately 16.1 acres of land. Grading activities would occur, which would result in landform alteration. However, views of the majority of the site (approximately 163.8 acres) would remain as open space. Impacts to landform alteration and aesthetics would be less than the proposed project because a smaller area would be disturbed, although these impacts are less than significant under the proposed project.

#### **Noise**

Under the Development Under the R-1-5 Zone alternative, development of 140 single-family residential units would occur on approximately 16.1 acres of land. Construction related activities would take place, which would lead to significant temporary noise impacts. Under this alternative, impacts relating to noise would be similar to the proposed project.

#### **Air Quality**

The Development Under the R-1-5 Zone alternative would result in the incremental contribution to the degradation of regional air quality. Construction related activities would occur, and this alternative would

generate the same amount of traffic as the proposed project. Therefore, impacts to air quality would be similar to the proposed project.

### **Cultural Resources**

Under this alternative, development of 140 residential units would occur within approximately 16.1 acres of undeveloped land. Construction and grading activities would occur, which may result in impacts to cultural resources. However, grading would occur on a smaller area than the proposed project, thus, the potential for impacts would be reduced from those of the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project.

### **Transportation, Circulation and Access**

Under this alternative, the development of 140 single-family residential units would occur in a clustered formation. Roadways constructed under this alternative would be shorter than those in the proposed project, but there would be an increase in traffic volumes that would utilize the local roadways similar to the proposed project. Impacts to traffic intersections would still occur. Impacts to traffic and circulation would be similar to the proposed project.

### **Hydrology/Drainage/Water Quality**

Under the Development Under the R-1-5 Zone Alternative, development of 140 acres of single-family residential units would occur on 16.1 acres of land. New drainage facilities would be required. An increase in impervious surface would occur, which may lead to an increase in runoff pollution. However, only 16.1 acres would be developed versus the proposed 93.1 acres for the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map*. Therefore, impacts to hydrology/drainage/water quality under this alternative would be less than the proposed project. Nonetheless, impacts to hydrology, drainage, and water quality would not be avoided under this alternative and mitigation would be required, although it would occur on a smaller scale than required under the proposed project.

### **Geology and Soils**

The Development Under the R-1-5 Zone Alternative would result in impacts associated with geology, because under this alternative, 140 residential units would be developed on 16.4 acres of undeveloped land. Similar to the proposed project, development would occur on expansive soils. Impacts under this alternative would be similar to those of the proposed project.

### **Paleontological Resources**

Under the Development Under the R-1-5 Zone Alternative, 16.1 acres of land would be developed with single-family residential units in a clustered formation. The remaining 163.8 acres would be left as open space. Grading activities would occur over the Tertiary Funglomerate formation in order to construct the residential developments. The Tertiary Funglomerate has a low potential for paleontological resources; therefore, no impacts to paleontological resources would be expected with this alternative. Impacts under this alternative would be less than those of the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project.



### **Public Services and Utilities**

Under this alternative, public services and utilities extensions to the site would be required to serve the 140 residential units that would be constructed. The Development Under the R-1-5 Zone Alternative would increase the demand for public parks, school, and libraries in the project vicinity, similar to the proposed project. However, impact fees would be paid, which would reduce impact to a level below significance. Increases in the demand for police, fire, and emergency services would also occur in a similar manner. Impacts under this alternative would be less than significant, as with the proposed project.

### **Public Health and Safety**

Under the Development Under the R-1-5 Zone Alternative, the development of 140 residential units would occur. Humans and structures could be exposed to fire hazards, although a fuel modification zone plan would be prepared to reduce impacts to fire hazards similar to the proposed project. Impacts to hazards and hazardous materials would be the same as the proposed project.

#### **6.2.3 Summary of Alternative Analysis**

Under the Development Under the R-1-5 Zone alternative, a redesignation and a rezone would need to occur to accommodate the 140 single family residential units on approximately 16.1 acres of land. Significant impacts to landform alteration/aesthetics, biological resources, and hydrology would be decreased when compared to the proposed project, as well as the potential for impacts on cultural resources. No impacts to paleontological resources would be expected. A similar intensity of development would occur under this alternative as with the proposed project; thus, traffic, public services and utilities, hazards and hazardous materials, geology and soils, air quality, and noise impacts would be similar to the proposed project. In addition, a new impact associated with land use would be occur by introducing a more intense residential housing type to an area planned for very low residential density.

## **6.3 ALTERNATIVES CONSIDERED BUT REJECTED**

### **Development Under the 160-acre Site Plan Alternative**

The original Bella Lago property was approximately 160 acres. The project was to develop 166 single-family residential units on approximately 129 acres, and approximately 35 acres would be set aside for open space. Acquisition of the Clarkson and Turner parcels added an additional 18.2 acres to the site, increasing it to its present area of 179 acres. The additional parcels are located in the southern most portion of the project site, in an area that is ideal for development. The site plans for this alternative scenario has been refined to derive the currently proposed site plan. Therefore, this alternative has been rejected.

#### 6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Sections 6.1.2 and 6.2.2, *Summary of Alternatives Analysis*, summarizes the potential environmental impacts by issue area, as associated with the different alternatives and as compared with the potential impacts of the proposed project. CEQA requires that the EIR identify the environmentally superior alternative among all of the alternatives considered, including the proposed project. If the No Project Alternative is selected as environmentally superior, then the EIR shall also identify an environmentally superior alternative among the other alternatives.

The environmental analysis of alternatives above indicates, through a comparison of potential impacts from each of the proposed alternatives and the proposed project, the No Project/No Development Alternative could be considered superior because no new impacts would be introduced to the area and the project site. The Development Under the R-1-5 Zone Alternative, which would result in the construction of 140 single-family homes on 16.1 acres, would also be selected as the environmentally superior alternative, since it would result in the least number of acres that would be developed. The Development Under the R-1-5 Zone Alternative would avoid impacts to paleontological resources. In addition, it would reduce, but not avoid, a number of impacts identified in association with the proposed project in the areas of landform alteration/aesthetics, biological resources, cultural resources, and hydrology. Impacts to traffic, public services and utilities, hazards and hazardous materials, geology and soils, air quality, and noise impacts would be similar to the proposed project. However, the Development Under the R-1-5 Zone Alternative would not meet the project's objective of providing large lot, estate housing opportunities to area residents.

## 7.0 MITIGATION MONITORING AND REPORTING PROGRAM

The analysis in Section 4, *Environmental Impact Analysis*, of this EIR indicates that potentially significant adverse environmental impacts may occur with the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project. A number of mitigation measures are recommended for the identified significant adverse impacts under each environmental issue area under consideration. The City of Chula Vista would choose to adopt these mitigation measures for the development of the large, estate residential uses under the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project at the time, and if, the City determines to certify the Final EIR.

Section 21081.6 of the Public Resources Code requires a public agency to adopt a monitoring and reporting program for assessing and ensuring the implementation of required mitigation measures applied to proposed developments. Specific reporting and/or monitoring requirements that will be enforced during project implementation shall be adopted coincidental to final approval of the project by the responsible decision maker(s). In addition, pursuant to Section 21081(a) of the Public Resources Code, findings must be adopted by the decision-maker regarding the adoption of the monitoring program, coincidental to certification of the Final EIR.

In accordance with Public Resources Code Section 21081.6, this Mitigation Monitoring and Reporting Program (MMRP) has been developed for the proposed *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project. The purpose of the MMRP is to ensure that implementation of the development proposed under Bella Lago complies with all applicable environmental mitigation and permit requirements. The MMRP for the proposed residential development designates the City of Chula Vista and its subconsultants as responsible for the implementation of mitigation measures, with the City Planning and Building Departments as responsible for verification for mitigation compliance, review of all monitoring reports, enforcement actions, and document disposition.

This mitigation monitoring and reporting program shall be considered by the City of Chula Vista, prior to completion of the environmental review process, to enable the decision-maker's appropriate response to the proposed project. In addition, the following language shall be incorporated as part of the decision-maker's findings of fact, and in compliance with requirements of the Public Resources Code.

In accordance with the requirements of Section 21081(a) and 21081.6 of the Public Resources Code, the City of Chula Vista will need to make the following additional findings:

- ◆ Site plans and/or building plans, submitted for approval by the responsible monitoring agency, shall include required mitigation measures/conditions; and
- ◆ That an accountable enforcement agency and monitoring agency shall be identified for mitigation measures/conditions adopted as part of the decision-maker's final determination.

## 7.1 MITIGATION MEASURES

As indicated earlier, the proposed residential development proposed under the *Bella Lago Precise Plan, Rezone, and Tentative Tract Map* project would be subject to standard conditions, which include existing City, County, State and Federal regulations. In addition, a number of mitigation measures have been recommended to reduce or avoid the potentially significant adverse impacts associated with development under the Bella Lago Tentative Map. These mitigation measures are listed below. Table 7-1, *Mitigation Monitoring and Reporting Program For Impacts Occurring After Rolling Hills Ranch Subarea III*, identifies the measures required for the project. Table 7-2, *Additional Mitigation Monitoring and Reporting Program for Impacts Occurring Prior to Rolling Hills Ranch Subarea III*, identifies additional mitigation measure that would be required if the Bella Lago project developed before the development of Subarea III. Responsible parties, the time frame for implementation, and the monitoring parties are also identified for each measure. The mitigation measures are primarily the responsibility of the developer, as the primary proponent for the development of Bella Lago. In order to determine if the developer or his subconsultants have implemented these measures, the method of verification is also identified, along with the City department or agency responsible for monitoring/verifying that the mitigation measure has been implemented.

## MITIGATION MONITORING AND REPORTING PROGRAM

TABLE 7-1  
MITIGATION MONITORING AND REPORTING PROGRAM  
FOR IMPACTS OCCURRING AFTER ROLLING HILLS RANCH SUBAREA III

Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
<b>BIOLOGICAL RESOURCES</b>			
Measure 4.2a			
Direct impacts to sensitive habitat and wildlife species associated with the project would be lessened to below a level of significance with the implementation of the following mitigation measures.			
<ul style="list-style-type: none"> <li>◆ Prior to the issuance of the first Final Map, the developer shall preserve on-site a total of 86.5 acres of on-site biological open space, which includes areas with populations of Otay tarplant, San Diego goldenstars and barrel cactus. In addition to preservation of the on-site biological open space, the applicant shall purchase 2.5 acres of habitat in Johnson Canyon or comparable area to be approved by the City of Chula Vista and the wildlife agencies. The proposed mitigation site includes a large population of Otay tarplant, a narrow endemic. This will bring the project's open space total to 89 acres.</li> <li>◆ Prior to issuance of the first Final Map, the developer shall also limit its encroachment into the Otay tarplant at 19 percent; a 20 percent encroachment is acceptable. The project shall mitigate the loss by the purchase of off-site habitat twice the area of impact. The applicant has agreed to purchase approximately 15,000 square feet of habitat in Johnson Canyon which supports large populations of Otay tarplants.</li> </ul>	Developer	Prior to issuance of the first final map for the project.	Planning and Building Department
Measure 4.2b			
Adjacency impacts associated with the project would be lessened to below a level of significance with the implementation of the following mitigation measures.			
<ul style="list-style-type: none"> <li>◆ Development within the Bella Lago boundaries shall follow adjacency guidelines (MSCP Section 7.5.2 of the October 2002 draft of the Chula Vista Subarea Plan), including providing for:               <ul style="list-style-type: none"> <li>a) Prior to the issuance of the first Building Permit, as identified by the Tentative Map for the Bella Lago project, a six-foot, solid block masonry wall or other barrier as approved by the Chula Vista Fire Marshal shall be constructed for adequate fire management in the eastern and southern boundaries of the Clarkson/Turner properties where the tarplant is to be preserved.</li> </ul> </li> </ul>	Developer	Prior to issuance of the first Building Permit for the project.	Planning and Building Department

# MITIGATION MONITORING AND REPORTING PROGRAM

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Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
<p>b) Prior to the issuance of the first Building Permit, as identified by the Tentative Map for the Bella Lago project the block wall shall be constructed to be located no closer than 25 feet from the nearest Otay tarplant. No developed area, including non-native landscaping, will be closer than 25 feet from the nearest Otay tarplant which is being avoided.</p> <p>c) Prior to the issuance of the first Grading Permit, in accordance with the Tentative Map, the developer shall demonstrate to the satisfaction of the Environmental Review Coordinator that project lighting will be directed away from the preserve.</p> <p>d) Prior to the issuance of the first Grading Permit, in accordance with the Tentative Map, the developer shall demonstrate to the satisfaction of the Environmental Review Coordinator that project runoff will be directed away from the preserve to the greatest extent possible.</p> <p>e) Prior to issuance of the first Grading Permit, the developer shall demonstrate to the satisfaction of the Environmental Review Coordinator how the project will observe seasonal restrictions on grading (as required by the wildlife agencies) to avoid noise impacts to nesting birds, and the project shall incorporate noise-reduction measures during project construction.</p> <p>f) Prior to issuance of the first Grading Permit, the developer shall demonstrate to the satisfaction of the Environmental Review Coordinator how the project will direct human access to the preserve away from the Otay tarplant and variegated dudleya locations. The project shall designate trails along the existing road. Other than preserve managers, the project shall not allow any public/private access into the preserve areas from the Clarkson/Turner properties without the concurrence of the wildlife agencies.</p> <p>◆ Prior to the issuance of the first Building Permit and the first Grading Permit, the developer shall demonstrate compliance with the City's Quino checkerspot butterfly habitat restoration efforts outlined in Section 7.4.3.2 of the City's draft MSCP Subarea Plan.</p> <p>◆ Area Specific Management Directives (ASMDs) for Bella Lago have been developed in accordance with the City's draft MSCP Subarea Plan and shall be incorporated into the development of Bella Lago. The ASMDs are included as Appendix N to this EIR and are summarized as follows. Prior to issuance of the first Building Permit, the</p>	<p>Developer</p> <p>Developer</p> <p>Developer</p> <p>Developer</p> <p>Developer</p> <p>Developer</p> <p>Developer</p>	<p>Prior to issuance of the first Building Permit for the project.</p> <p>Prior to issuance of the first Grading Permit for the project.</p> <p>Prior to issuance of the first Grading Permit for the project.</p> <p>Prior to issuance of the first Grading Permit for the project.</p> <p>Prior to issuance of the first Grading Permit for the project.</p> <p>Prior to issuance of the first Grading Permit for the project.</p> <p>Prior to issuance of the first Building Permit and the first Grading Permit for the project.</p> <p>Prior to issuance of the first Building Permit for the project.</p>	<p>Planning and Building Department</p> <p>Planning and Building Department</p> <p>Planning and Building Department</p> <p>Planning and Building Department</p> <p>Planning and Building Department</p> <p>Planning and Building Department</p> <p>Planning and Building Department</p>



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Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
<p>3. <u>Species-Specific Management Directives</u>  The Bella Lago project shall follow the directives for certain covered species, as identified in Table 4 of the ASMDs (see Appendix N).</p>			
<p><b>NOISE</b></p> <p>Measure 4.4a:</p> <p>As a condition of approval of the first grading permit, the applicant shall be required to limit all construction and rock blasting activities to between 7 AM and 7 PM Monday through Saturday.</p>	Developer	Prior to approval of the first Grading Permit for the project	Engineering Department
<p>Measure 4.4b:</p> <p>Prior to the approval of the first grading permit, the applicant shall submit a construction noise mitigation plan for the review and approval of the Environmental Review Coordinator, that incorporates seasonal avoidance, alternative equipment or temporary barriers on a habitat-specific basis to achieve a less than significant impact during the nesting/breeding season.</p>	Developer	Prior to approval of the first Grading Permit for the project	Engineering Department
<p><b>AIR QUALITY</b></p> <p>Measure 4.5a</p> <p>Project construction shall implement enhanced dust control measures to maintain a less-than-significant impact and associated with air quality during construction. Enhanced dust control measures shall be called out as notes on the project grading plan(s) and shall include the following:</p> <ul style="list-style-type: none"> <li>◆ Water all active construction areas at least twice daily.</li> <li>◆ Cover all haul trucks or maintain at least two feet of freeboard.</li> <li>◆ Pave or apply water four times daily to all unpaved parking or staging areas.</li> <li>◆ Sweep or wash any site access points within 30 minutes of any visible dirt deposition on any public roadway.</li> <li>◆ Cover or water twice daily any on-site stockpiles of debris, dirt or other dusty material.</li> <li>◆ Suspend all operations on any unpaved surface if winds exceed 25 mph.</li> </ul> <p>Hydroseed or otherwise stabilize any cleared area which is to remain inactive for more than 96 hours after clearing is completed.</p>	Developer	During grading and construction operations.	Engineering Department

# MITIGATION MONITORING AND REPORTING PROGRAM

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Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
<b>CULTURAL RESOURCES</b>			
Measure 4.6a A qualified archaeological monitor shall be on-site during initial grading in the mapped area of the two archeological structures that were recorded within the proposed development area. Figure 4.6-1, Area to be Monitored, identifies the area which requires monitoring (approximately 75 feet on each side of the existing dirt road, from the section line south to the southern project boundary).	Developer	During initial grading	Planning and Building Department
Measure 4.6b: If historic archaeological material is encountered during grading, all grading shall stop and its importance shall be evaluated, and suitable mitigation measures shall be developed and implemented, if necessary. Cultural material collected shall be permanently curated at an appropriate repository, such as the San Diego Archaeological Center.	Developer	During initial grading	Planning and Building Department
<b>TRAFFIC, CIRCULATION AND ACCESS</b>			
Measure 4.7a East H Street/Proctor Valley Road/Mount Miguel Road – Prior to the approval of the first final map for the project, the applicant shall contribute fairshare towards the construction and securing of a fully activated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaries at the East H Street/Proctor Valley Road/Mount Miguel Road intersection. The timing of installation and the design of the signal shall be to the satisfaction of the City Engineer.	Developer	Prior to issuance of first Final Map for the project	Engineering Department
Measure 4.7b Proctor Valley Road/Lane Avenue - Prior to the approval of the first final map for the project, the applicant shall contribute fairshare towards the construction and securing of a fully activated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaries at the Proctor Valley Road/Lane Avenue intersection. The timing of installation and the design of the signal shall be to the satisfaction of the City Engineer.	Developer	Prior to issuance of first Final Map for the project	Engineering Department

# MITIGATION MONITORING AND REPORTING PROGRAM

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Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
<ul style="list-style-type: none"> <li>ii. Description of site design and source control BMPs considered and to be implemented.</li> <li>iii. Description of applicable treatment control BMPs considered and to be implemented to reduce or treat the identified pollutants.</li> <li>iv. Justification for selection of the proposed treatment control BMP(s) including 1) targeted pollutants, justification, and alternative analysis, 2) design criteria (including calculations), 3) pollutants removal information (other than vendors specifications), and 4) literature references.</li> <li>v. Site plan depicting locations of the proposed treatment control BMPs; and</li> <li>vi. Operation and maintenance plan for the proposed treatment control BMPs</li> </ul>			
<p>Measure 4.8f:</p> <p>Prior to issuance of each grading permit, a SWPPP shall be prepared to the satisfaction of the City Engineer to ensure implementation of the BMPs required by the erosion control plan. Potential BMPs that could be used include the following. However, this does not preclude the use of other BMPs that would meet the requirements of the NPDES:</p> <ul style="list-style-type: none"> <li>i. Short-term placement of sediment trapping facilities such as sand bags, matting, mulch, brush barriers, filters, berms, hay bales, silt fences, and/or sediment pools or other similar devices, along with all pertinent graded areas to minimize off-site sediment transport. Such facilities would likely be required for the base of manufactured slopes, as well as all areas adjacent to, or upstream of, major drainage courses and wetlands.</li> <li>ii. Hydroseeding of manufactured slopes following construction, together with provision of adequate water (through irrigation or truck watering) for an appropriate establishment period to be determined by the City Engineer.</li> <li>iii. Reclamation of all disturbed areas as soon as practicable after completion of grading.</li> <li>iv. Placement of temporary and/or permanent (if applicable) desilting basins, dikes, check dams, sediment basins, riprap, or other appropriate structures at applicable points upstream of all drainage courses and wetlands, or where substantial drainage alteration is proposed.</li> </ul>	Developer	Prior to issuance of each Grading Permit for the project	Engineering Department

# MITIGATION MONITORING AND REPORTING PROGRAM

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Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
<p>v. Placement of energy dissipating structures (e.g., sediment basins, riprap aprons, water bars, or drop structures) at all storm drain, subdrain, and pipe outlets, as well as all drainage crossings, downstream outlets at all culverts and brow ditches, and applicable areas within drainage ditches or swales.</p> <p>vi. Use of subdrains in applicable areas to redirect subsurface flows.</p> <p>vii. Stabilization of construction vehicle and equipment access points by temporary paving, graveling, and/or use of sediment trapping devices to reduce the movement of sediment onto public roads and rights-of-way.</p> <p>viii. Restriction of grading during the rainy season, October 1 through April 30, unless related erosion and sedimentation control measures are implemented to the satisfaction of the City Engineer. Erosion and sedimentation control measures shall be in place a minimum of five days prior to any forecasted rain and shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>• Silt fencing shall be placed in all locations along the corridor where grading is higher than adjacent natural areas.</li> <li>• Silt fencing shall be maintained in a functioning condition until site preparation for the next phase of construction begins.</li> <li>• Sand bags will be used as necessary to ensure that the silt fence adequately maintains its integrity. A solid line of sand bags will be placed on the silt fence adjacent to any body of water or creek.</li> <li>• Construction fencing shall be placed along the corridor to keep vehicles and equipment from inadvertently entering natural areas.</li> <li>• Adequate liners will be used to eliminate the potential for soil migration which might be caused by precipitation from construction areas where there is bare soil.</li> </ul>			
<p>Measure 4.8g:</p> <p>Prior to the approval of the first final map, the applicant shall develop a funding mechanism to monitor downstream flows from the project and correct any erosion occurring down stream of the project to the satisfaction of the City Engineer.</p>	Developer	Prior to issuance of the first final map for the project	Engineering Department

## MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
<b>GEOLOGY AND SOILS</b>			
Measures 4.9a Prior to the issuance of each grading permit, a subsequent geotechnical investigation of the site shall be performed and appropriate mitigation measures to attenuate the adverse expansive soil characteristics identified. Mitigation measures may include the use of select grading to place the more highly expansive soils at greater depth within the fill; the use of post-tension slab foundation systems and elevated moisture conditioning of the subgrade; or a combination of the two measures.	Developer	Prior to issuance of each Grading Permit for the project	Engineering Department
Measure 4.9b The geotechnical investigation shall include specific setback values and other recommendations for appurtenant structures near slopes to attenuate for the adverse effects of slope creep or lateral fill extension that can occur with expansive soil fills and cuts.	Geotechnical consultant	During geotechnical investigation	Engineering Department
Measure 4.9c A rippability investigation utilizing geophysical methods shall be conducted as part of the comprehensive geotechnical investigation program.	Geotechnical consultant	During geotechnical investigation	Engineering Department
Measure 4.9d The engineering geologist shall inspect the slope excavations to ensure that bedding planes or weakened shear planes are not encountered.	Engineering geologist	During geotechnical investigation	Engineering Department
Measure 4.9e Prior to the issuance of each grading permit, the applicant shall verify that the applicable recommendations of the geotechnical investigations prepared by Shepardson, dated October 1, 2001, and Irvine Consulting Group, dated July 26, 1991, for the Bella Lago property have been incorporated into the project design and construction documents to the satisfaction of the City Engineer of the City of Chula Vista.	Developer	Prior to issuance of each Grading Permit for the project	Engineering Department

# MITIGATION MONITORING AND REPORTING PROGRAM

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Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
<b>PALEONTOLOGICAL RESOURCES</b>			
Measure 4.10a			
<ul style="list-style-type: none"> <li>◆ Prior to issuance of any on-site (or off-site) grading permits, the applicant shall confirm to the City of Chula Vista that a qualified paleontologist has been retained to carry out the following mitigation program. The paleontologist shall attend pregrade meetings to consult with grading and excavation contractors. (A qualified paleontologist is defined as an individual with an MS or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques.)</li> </ul>	Developer	Prior to issuance of each Grading Permit	Planning and Building Department
<ul style="list-style-type: none"> <li>◆ A paleontological monitor shall be on-site at all times during the original cutting of previously undisturbed sediments of highly sensitive geological formations (Otay and Santiago Peak Volcanics) to inspect cuts for contained fossils. The paleontological monitor shall work under the direction of a qualified paleontologist. The monitor shall periodically (every several weeks) inspect original cuts in deposits with an unknown resources sensitivity. (A qualified paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials.)</li> </ul>	Developer	During construction of the project	Planning and Building Department
<ul style="list-style-type: none"> <li>◆ If fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In instances where recovery requires an extended salvage time, the paleontologist (or paleontological monitor), shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Where deemed appropriate by the paleontologist (or paleontological monitor). A screen-washing operation for small fossil remains shall be set up.</li> </ul>	Paleontologist (or paleontological monitor)	During construction of the project	Planning and Building Department
<ul style="list-style-type: none"> <li>◆ Prepared fossils, along with copies of all pertinent field notes, photographs, and maps, shall be deposited (with the applicant's permission) in a scientific institution with paleontological collections such as the San Diego Natural History Museum. A final summary report shall be completed which outlines the results of the mitigation program. This report shall include discussion of the methods used, stratigraphy exposed, fossils collected, and significance or recovered fossils.</li> </ul>	Developer	After recovery of fossils, if applicable	Planning and Building Department



# MITIGATION MONITORING AND REPORTING PROGRAM

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Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
<b>UTILITIES AND PUBLIC SERVICES</b>			
<b>SEWER SERVICES:</b>			
<p><b>Measure 4.11a-1:</b> Prior to approval of the first final map for the project, the developer of Bella Lago shall enter into a three party agreement with the City, and the developer of Rolling Hills Ranch for capacity in Rolling Hills Ranch's on-site lift station and force main. If the Rolling Hills Ranch project has not constructed the gravity sewer line, sewer lift station, and force main piping at the time the Bella Lago project is ready to develop, these facilities will become off-site improvements necessary to serve the project.</p>	Developer	Prior to issuance of first Final Map	Engineering Department
<p><b>Measure 4.11a-2:</b> If the Salt Creek Interceptor has not been completed prior to the approval of the first final map for the project, the project shall enter into a three party agreement with the City of Chula Vista and the Eastlake Company to acquire capacity rights at the Otay Lakes Road Pump Station and the Olympic Parkway Pump Station. Under this scenario, Bella Lago would also be required to pay the Pumped Flow Development Impact Fee.</p>	Developer	Prior to issuance of first Final Map	Engineering Department
<p><b>Measure 4.11a-3:</b> The Bella Lago project shall construct all off-site and on-site sewer facilities identified in the <i>Overview of Sewer Service for the Bella Lago Project</i> and as required by the City Engineer to serve the project.</p>	Developer	Prior to building permit issuance	Building Department
<p><b>Measure 4.11a-4:</b> The developer of Bella Lago shall comply with the City Council Policy 570-03 for Pumped Sewer flows.</p>	Developer	Prior to issuance of each Grading Permit	Engineering Department
<p><b>Measure 4.11a-5:</b> Prior to issuance of each Grading Permit, the developer of Bella Lago shall obtain City of San Diego Water Utility concurrence on all grading and improvement plans within the Otay Lake Drainage Basin, with the final decision at the discretion of the City of Chula Vista.</p>	Developer	Prior to issuance of each Grading Permit	Engineering Department
<p><b>Measure 4.11a-6:</b> Prior to approval of the first final map for the project, the developer of Bella Lago shall create a post-construction BMP maintenance program acceptable to the City Engineer, the Regional Water Quality Control Board and the City of San Diego Water Utilities Department with perpetual funding for maintenance, with the final decision at the discretion of the City of Chula Vista.</p>	Developer	Prior to issuance of first Final Map	Engineering Department

# MITIGATION MONITORING AND REPORTING PROGRAM

7.0

Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
Measure 4.11a-7: Prior to the recordation of the first final map for the project, the applicant shall demonstrate to the City Engineer that there is adequate capacity to handle projected sewage flows for the entire project.	Developer	Prior to the recordation of the first Final Map	Engineering Department
Measure 4.11a-8: Sewer facility improvements shall be financed or installed on- and off-site in accordance with City Council Policy 570-03.	Developer	Prior to the recordation of the first Final Map	Engineering Department
Measure 4.11a-9: The developer shall be responsible for constructing all sewer improvements from Rolling Hills Ranch to Bella Lago necessary to serve the project. The proposed project shall adequately provide sewer service without relying upon any proposed sewer construction phasing by other developments. The developer shall also underwrite the cost of all studies and reports needed to support the addition of sewer flows to existing lines.	Developer	Prior to the recordation of the first Final Map	Engineering Department
WATER SERVICES:			
Measure 4.11b-1: If the 980 Zone and 1296 Zone facilities within Rolling Hills Ranch are not constructed prior to approval of the first final map for the project, these facilities shall be required off-site improvements for the Bella Lago project.	Developer	Prior to issuance of first Grading Permit	Engineering Department
Measure 4.11b-2: Prior to the approval of the first final map for the project, the Developer of Bella Lago shall secure and agree with the Otay Water District to construct all potable water facilities (on and off-site) required for the 1296 pressure system prior to the first final map containing a lot served by the 1296 pressure system, including: <ul style="list-style-type: none"> <li>◆ A Hydropneumatic pump station meeting City of Chula Vista Fire flow requirements.</li> <li>◆ A looped 980 pressure system providing the hydropneumatic pump with more than one source of 980 zone flows.</li> </ul>	Developer	Prior to the first final map containing a lot served by the 1296 pressure system	Engineering Department
Measure 4.11b-3: Prior to approval of the Tentative Map for the project, the applicant shall provide the City with a letter from the OWD stating that adequate pumping and storage capacities are available or would be available concurrent with need.	Developer	Prior to approval of the Tentative Map for the project	Engineering Department

# MITIGATION MONITORING AND REPORTING PROGRAM

7.0

Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
Measure 4.11b-4: Prior to approval of the first final map for the project, the applicant shall provide the City with a letter from the OWD stating that adequate storage capacity exists or would be available to serve the project.	Developer	Prior to approval of the first Final Map for the project	Engineering Department
Measure 4.11b-5: A final Subarea Water Master Plan shall be approved prior to the approval of the Tentative Map for the project. The Master Plan shall include the design of water system infrastructure including timing and costs of development and must be in compliance with the OWD Master Plan. Water facilities improvements shall be financed or installed on- and off-site in accordance with the SAMP.	Developer	Prior to approval of the Tentative Map	Engineering Department
<b>LAW ENFORCEMENT AND POLICE PROTECTION:</b>			
Measure 4.11c-1 Prior to the approval of the first final map for the project, the developer shall pay impact fees for police protection services to help finance the needed facilities and services.	Developer	Prior to the approval of the first Final Map	Planning and Building Department
Measure 4.11c-2 The City will monitor Police Department responses to emergency calls and report the results to the GMOC on an annual basis.	City	Annually	Planning and Building Department
<b>FIRE PROTECTION:</b>			
Measure 4.11d-1 Prior to approval of the first final map for the project, the developer shall pay impact fees for fire protection services to help finance the needed facilities and services.	Developer	Prior to the approval of the first Final Map	Planning and Building Department
Measure 4.11d-2 The City will monitor Fire Department responses to emergency fire and medical calls and report the results to the GMOC on an annual basis.	Developer	Annually	Planning and Building Department
<b>PARKS AND RECREATION</b>			
Measure 4.11e-1 The developer of the proposed project shall finance parkland obligation of 1.48 acres.	Developer	Prior to issuance of building permits	Planning and Building Department

# MITIGATION MONITORING AND REPORTING PROGRAM

7.0

Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
<p><b>SCHOOLS:</b></p> <p>Measure 4.11f-1  Prior to issuance of building permits, <del>The project applicant shall pay school impact fees or participate in an alternative financing mechanism, such as a Community Facilities District, to help finance the needed facilities and services for the Chula Vista Elementary and the Sweetwater Union High School Districts prior to issuance of building permits to help finance the needed facilities and services to the satisfaction of the School Districts.</del></p>	Developer	Prior to issuance of building permits	Planning and Building Department
<p><b>LIBRARY:</b></p> <p>Measure 4.11g-1:  The project applicant shall pay impact fees to help finance the library facilities, supplies, and services.</p>	Developer	Prior to issuance of building permits	Planning and Building Department

**TABLE 7-2**  
**ADDITIONAL MITIGATION MONITORING AND REPORTING PROGRAM**  
**FOR IMPACTS OCCURRING PRIOR TO ROLLING HILLS RANCH SUBAREA III**

Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
<b>BIOLOGICAL RESOURCES</b>			
Measure 4.2c:  Prior to issuance of grading permit for any portion of Subarea III, the developer shall prepare ASMDs and provide funding for their implementation.	Developer	Prior to issuance of the first Grading Permit for the project.	Planning and Building Department
<b>LANDFORM ALTERATION/AESTHETICS</b>			
Measure 4.3.6a  The grading plan shall incorporate landform grading sensitive to existing topography to the extent feasible and acceptable to the City Planning Department along major streets, such as those which would be required to serve Bella Lago. Techniques used to blend graded areas to natural landforms shall include slope rounding, obscuring slope drainage structures by massing plant materials, landform grading on large slope bands, and use of planting materials to control erosion.	Planning and Building Department	Prior to issuance of the Grading Plan for the project.	Planning and Building Department
<b>CULTURAL RESOURCES</b>			
Measure 4.6c:  Prior to approval of first grading permit, the developer of Bella Lago shall review the locations of identified archaeological and historical sites within the Rolling Hills Ranch project boundary. If it is determined that an archaeological and/or historical site is within the area proposed for the roadways, then a qualified archaeological monitor shall be on-site during initial grading in the mapped area of the site(s).	Developer	During initial grading	Planning and Building Department

## MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measure	Responsible Party	Time Frame for Implementation	Department/Agency Responsible for Monitoring
<b>TRAFFIC, CIRCULATION AND ACCESS</b>			
Measure 4.7e  Prior to the approval of the first final map, the applicant shall enter into an agreement with the City of Chula Vista to design, secure and construct all access to the project from the existing portion of Proctor Valley Road to both access points of the project. The timing of the construction should be to the satisfaction of the City Engineer.	Developer	Prior to the approval of the first Final Map	Engineering Department
Measure 4.7f:  The developer will implement transportation demand management strategies, including provisions of transit service and bus stops in order to reduce the peak hour demand on the street network.	Developer	Prior to the approval of the first Final Map	Planning and Building Department



## 8.0 REFERENCES, PERSONS AND AGENCIES CONTACTED, AND EIR PREPARATION

### 8.1 References

The following references were used in the preparation of this Environmental Impact Report and are available for review by the public at the offices of the City of Chula Vista, Planning Department at 276 Fourth Avenue in Chula Vista, California 91910 or at the offices of David Evans and Associates at 8989 Rio San Diego Drive, Suite 335, San Diego, California 92108 during normal business hours.

Affinis, Archaeological Resources Survey and Testing for Bella Lago Estates, August 2002.

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California Department of Health Services and the Public Health Institute, California Electric and Magnetic Fields Program, Electric and Magnetic Fields, Measurements and Possible Effect on Human Health-What We Know and What We Don't Know in 2000, December 2000.

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Nasland Engineering, Preliminary Drainage Study for Bella Lago, July 25, 2002.

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Shepardson Engineering Associates Inc., Report of Geotechnical Feasibility Update, Proposed Bella Lago Subdivision, October 2001.

## **8.2 Persons and Agencies Contacted**

City of Chula Vista

- ◆ Buck Martin, Director of Recreation
- ◆ Dave Byers, Public Works Operations
- ◆ Frank Rivera, Engineering Department

Troy Murphee, Sweetwater Authority

Dr. Lowell Billings, Chula Vista Elementary School District

Jim Peasley, Otay Water District

Katy Wright, SUHSD

Fred Kruse, Pacific Bell

Kathy Babcock, Sempra Energy

Susan Painter, Chula Vista Civic Center Branch

Metropolitan Transit Development Board, Jennifer Williamson

Rod Hastie, City of Chula Vista fire Department

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Chula Vista Police

Otay Landfill

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### 8.3 EIR Preparation

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